CHEMICAL MARKETS

RUPERT C. WATSON
Managing Editor

WILLIAMS HAYNES, Publisher

ELMER F. SHEETS
Assistant Editor

VOLUME XXII | ESTABLISHED 1914 | NUMBER 6

Contents for June, 1928

Charles H. MacDowell is president of Armour Fertilizer Works, Chicago, and vice-president and director of Armour & Co. He organized the fertilizer department of Armour & Co. in 1894—since 1909, Armour Fertilizer Works. Developed the first American potash mine (alunite), organized and served as director of Chemicals Division War Industries Board, and was a technical economic advisor to the American Commission to Negotiate Peace. His services have been recognized by award of U. S. Distinguished Service Medal; by war decorations from France, Belgium and Italy; by twice serving four years as President of National Fertilizer Association; by membership in Executive Board of American Engineering Council; membership in Chemistry Visiting Committee of Overseers of Harvard College; chairmanship of Citizens' Chemistry Committee, University of Chicago.

CHEMICAL MARKETS, INC., Publishers

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PUBLISHED ON THE TENTH DAY OF EACH MONTH AT PITTSFIELD, MASS. SUBSCRIPTION TWO DOLLARS A YEAR, IN ADVANCE, POSTPAID TO ALL COUNTRIES; SINGLE COPIES, CURRENT ISSUE, 25 CENTS; BACK COPIES, 50 CENTS EACH. NOTICE OF THREE WEEKS IS NECESSARY TO CHANGE SUBSCRIBER'S ADDRESS AND IN WRITING PLEASE GIVE BOTH THE OLD AND NEW ADDRESSES. PRINTED FOR THE PUBLISHERS BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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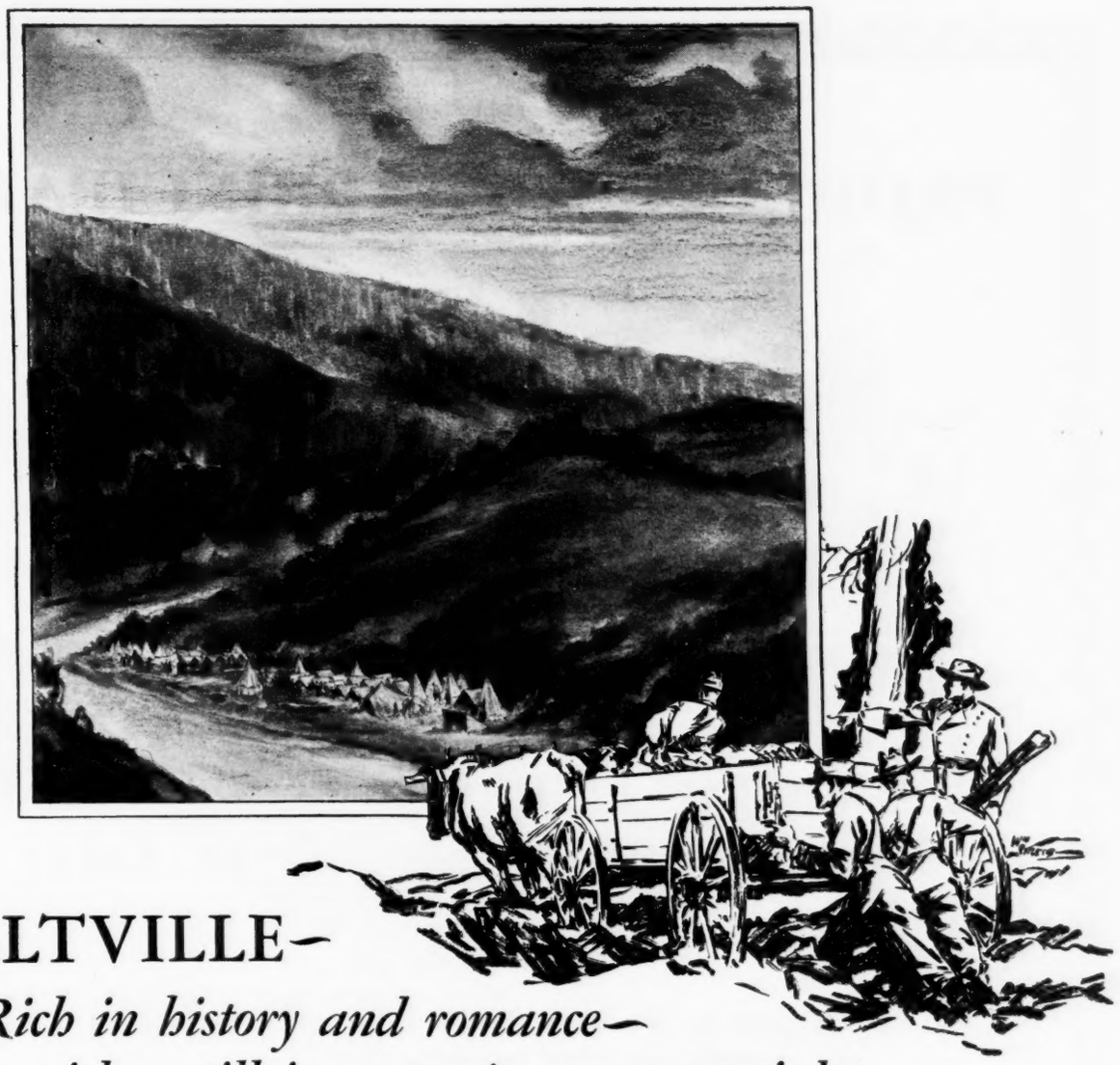

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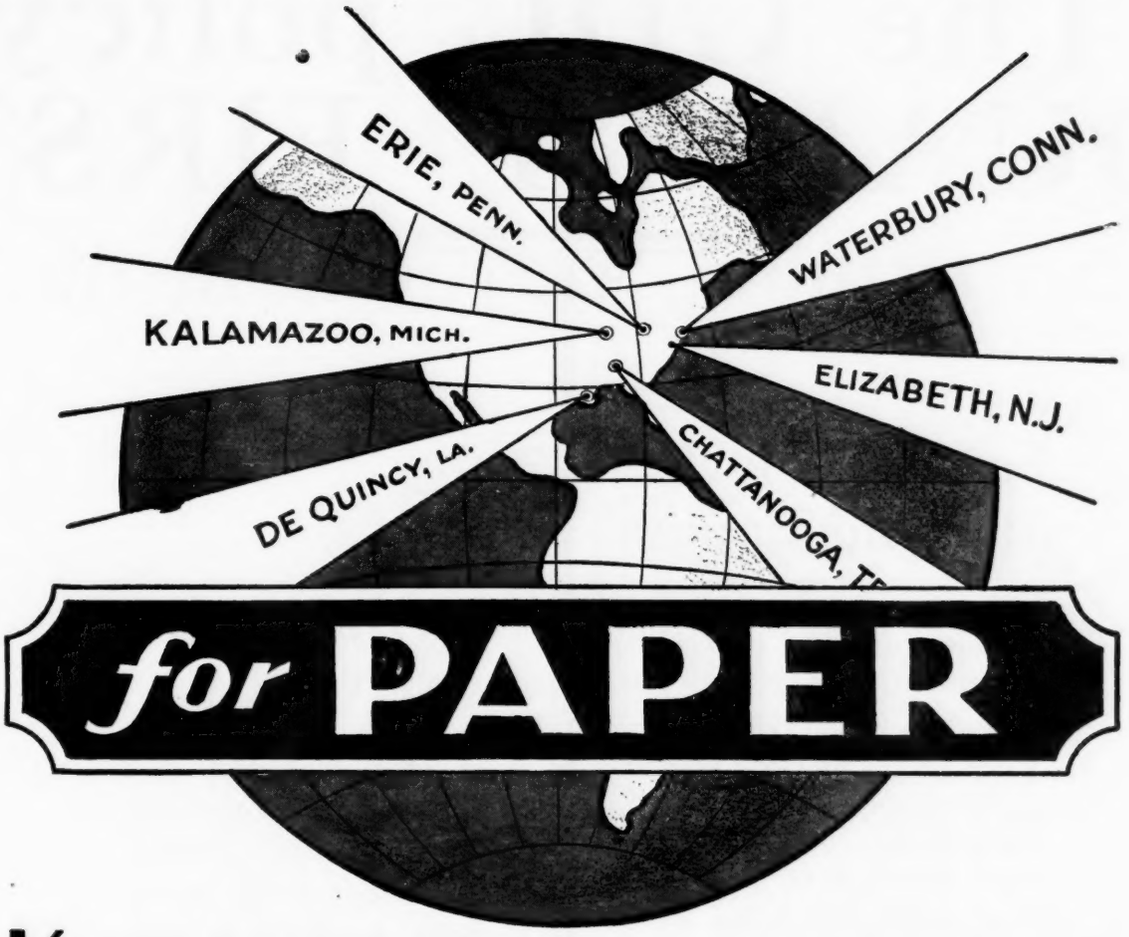

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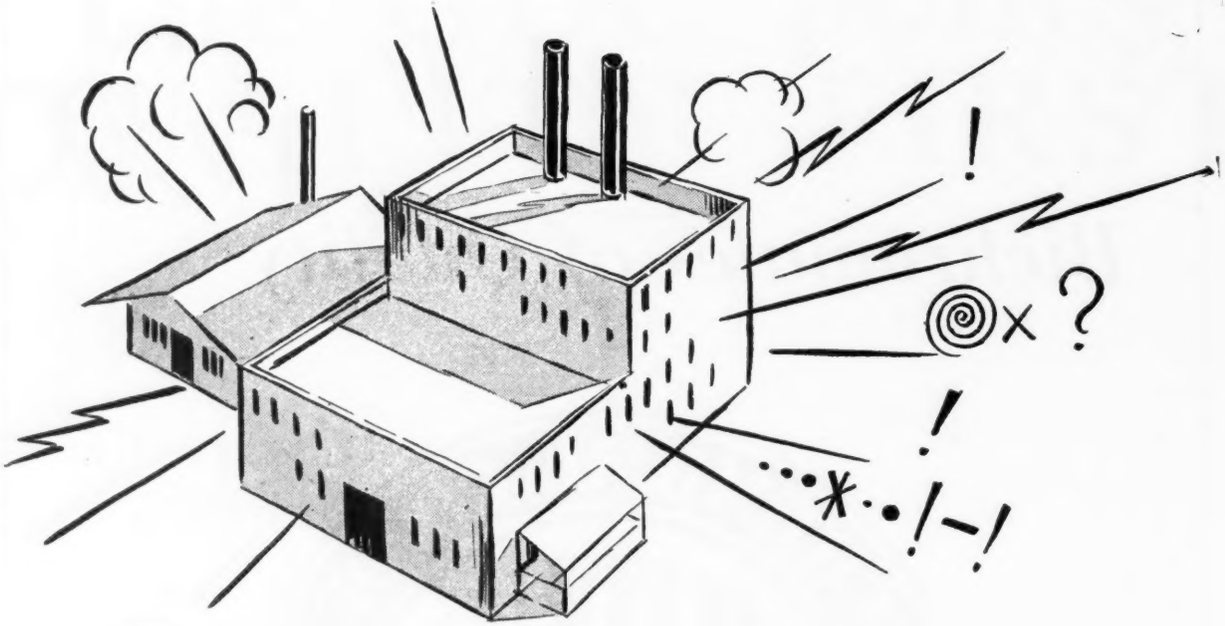

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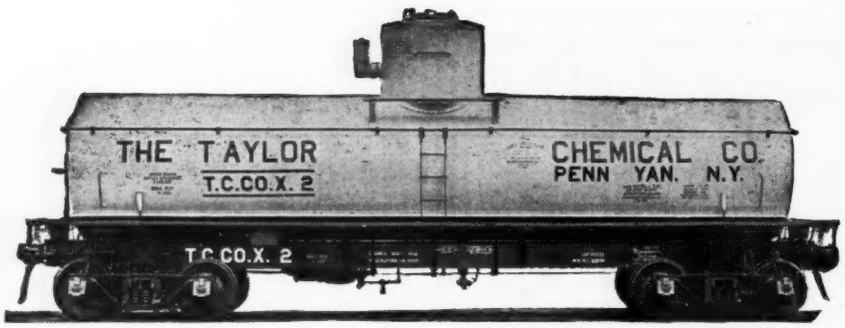

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CHEMICAL MARKETS

VOL. XXII. JUNE, 1928 NO. 6.

Patents and Property

TWO recent Supreme Court patent decisions—Corona Tire vs Dovan Chemical and Holland Furniture vs Perkins Glue—raise some highly curious and extremely significant questions as to the status of patents, especially chemical patents, and the rights of the patentee.

MEN will not build cities on land to which the titles are insecure. No more will men sweat blood and sink money to discover, develop, and exploit the inventions that build the great cities of modern industry, if another may steal the benefits of their discoveries without the effort or expenditure. Since nothing that a man owns is so obviously wholly his very own property as a new discovery of this sort, the Constitution provides that, if he will make public disclosure of his invention for the promotion of the arts, sciences, and industries, Congress shall pass laws to protect his rights of discovery for a limited period of time. This is the foundation of our patent system.

THE law provides, and the Patent Office examiners properly demand, that the specifications of a patent do make public the discovery of the inventor. Is the Government equally zealous in fulfilling its part of the bargain that the rights of the patentee shall be protected by a monopoly during seventeen years?

WE believe that it is not, and to the chemical industrialist this is no rhetorical question. Its answer is a matter of the gravest concern, for the future progress of the industry rests four square upon the adequate protection of the property rights of chemical discovery.

IT has come to be a common saying that a patent is little more than a license to fight in court. How carelessly we view the rights of the inventor and the promotor of any new idea is vividly brought home by the different attitude of the public and the courts towards the theft of other kinds of property. If a man steals a thousand dollar bond or a ten-cent loaf of bread, amid a hue and cry, he is pursued, captured, jailed, proved guilty all at public expense. If he steals a new process or a new composition of matter no stigma attaches to his theft, and when hailed to court, it is the patentee who must defend his property. Often—far too often—this defense is overthrown by legal technicalities sustained by court decisions which have shown an alarming tendency to restrict patent claims till the protection to the patentee is squeezed down to nothing.

Industrial Analogies

Out of his incomparable industrial experience Charles M. Schwab has given to the steel industry an analysis of the present economic situation of surpassing interest. Steel and chemicals are not unlike. Both are industrial raw materials, both are sold largely on contract to buyers for remanufacture, sold in markets where the demand is very inelastic, and where, accordingly, the price changes to become quickly, and often, violent. Both industries are seriously over produced as a result of the war expansion. The words of the great industrial leader of steel will echo truly in the experience of many a big chemical executive.

Mr. Schwab holds these truths to be self evident: the major difficulties in the present successful operation of basic industry in this country arise from low margins of profit, the hunger for volume, the existing struggle for orders to maintain plant output at capacity, resulting in the resort to expedience which we all know are inherently wasteful. Looking the present situation squarely in the eye he sees no relief from a reduction in labor costs, and he questions whether efforts along those lines if successful from the producer's point of view would be expedient since American prosperity to-day is dedicated upon a high scale of living. He is not foolish enough to believe with easy optimism that higher selling prices will prevail in the near future. As a matter of fact, every economic indicator points plainly to lower prices, increased industrial efficiency, and to new inventions that will employ raw material more economically. This particular portion of his doctrine is of especial interest in economic fields for chemicals are industrial raw materials.

As a great many others have done recently Mr. Schwab finds a ray of light in the possibility of reducing the costs of distributing goods. As has so often been indicated of late there are prodigous wastes in our methods of merchandising and delivering. Mr. Schwab proposes no easy, commonplace remedy for reducing these wastes. He has made a revolutionary proposal—namely, that the steel industry should openly and frankly allot sales territories with the view of saving not only freight rates but the exhorbitant costs of invading the natural selling territory of competitors. He suggests that this plan be laid frankly before the proper federal officials in order that official approval of a sound, indeed a necessary, and an inherently and fair solution of the problem be reached.

This is rich food for thought. It will prove a little indigestible to those manufacturers who have been so strenuously endeavoring of late to secure an adequate margin of profit by the raising of prices. It will not set well with those who are convinced, as many in chemical circles are, that over production is the root of all evil, and that it can only be cut out by ruthless competition. Nor is it a tasty morsel to the energetic salesmen from Wall Street, who advocate combinations of existing companies to eliminate duplication of effort, to effect economies in production, and to consolidate sales effort to the profit of all concerned.

Financial Chemistry

It may be fairly assumed that Sir Alfred Mond knows whereof he speaks when he suggests that British and American financial institutions have paid altogether too little attention to scientific developments which may seriously affect industrial investments. Certainly, it is common knowledge that the banks of Germany, and even to a less extent of France, have been in much closer touch with chemistry than have their confreres in English speaking countries, therefore, one of the most positive proofs of the growing importance of chemicals in industry is the fact that in several different directions American bankers are beginning to recognize their deficiencies along these lines and taking active steps to correct them.

A scientific-economic research bureau, supported by some of the investment trusts, has begun operations in Detroit, and has already prepared two exhaustive industrial surveys covering alcohol and fertilizers. A small group of banks in New York have been sounding out some of our best known consulting chemical engineers and chemical economists with the view of gathering together an advisory staff of experts to advise on chemical matters. The Investment Bankers' Association is also bestirring itself to secure more prompt and more reliable chemical information with the view of protecting investors against wild cat chemical schemes on the one side, and on the other side against the jeopardy to established industries that may come from new chemical developments in allied fields.

These are healthy efforts in the right direction. The chemical problems that are laid before financiers are becoming so numerous and so important that it would almost seem that some centralized research body ought to be organized to investigate chemical

fields expertly and disinterestedly for financial purposes. As we have pointed out several times nothing would be worse for the chemical industry than an era of wild cat financing, and no field offers Wall Street a better opportunity for making costly mistakes than does the irresponsible fringe of chemical manufacturing.

Obsolete Competition

Because the units of modern industry have grown so big and because the war period completely upset all existing ratios between supply and demand, producers have lost their former ability of adapting output to consumption. Therefore, since industry rests upon a fixed production cost, free industrial competition becomes increasingly impossible From these premises Professor Schamalenbach has thrown a bomb into economic and socialistic circles in Europe by declaring that industrial competition is near its end and will be replaced by what he calls "tied industry."

As chairman of the official commission which has been studying the problems of the German coal industry Professor Schamalenbach has had an opportunity to observe at close hand and with free access to all the facts and figures the problems that surround one of the world's basic raw materials, and while his prophesy is not altogether a new one, nevertheless, he has gone much further than those economists who have for sometime foreseen an era of combinations, cartels, trusts, and monopolies which, putting it mildly, would fundamentally change the complexion of competition as we have known it in the past. This advanced stand puts Schamalenbach, who is a vigorous anti-socialist, in the position of prophesying what amounts to a fulfillment of the predictions of Karl Marx. There is no doubt that the cartel movement, tremendously accelerated during the last few years, is growing to enormous proportions throughout Europe, and that sooner or later some of the European governments will be forced to recognize further, either by encouragement or by control, these new industrial giants. Strong socialistic parties in several of the countries may develop this situation into a major political crisis.

We do not have a parallel political situation in this country, but as Professor Schamalenbach pointed out, our anti-trust legislation, while it has hampered the development of industry along these modern lines in this country, nevertheless, it has not checked this broad, potent, economic tendency. Our industrial leaders, engrossed in work-a-day problems, should take the time necessary to consider carefully what effect an era of thoroughly controlled production and distribution throughout the other important industrial countries of the work would mean to us in America.

A United Front

In view of the present day trend toward consolidation of interests and the elimination of waste effort it seems difficult to understand the persistency of the various branches of the industry in maintaining separate trade associations. All are working for the same ends—the protection of the industry from foreign competition, a better understanding between members and an organized front against harmful and unjust legislation. These come naturally to mind as some of the major objectives of our trade associations. In their present state, multiple organizations of this type seem a glaring example of unnecessary duplication.

The time honored rebuttal to a movement toward a sole trade association is simply the opinion which prevails that the chemical industry is not closely enough knit to entertain thoughts of a successful consummation of such a move. Is this the case ? Our automobile industry maintains an all embracing Chamber of Commerce. Is it not a fact that heavy chemicals, dyestuffs and fertilizers are more closely related than are rubber tires and carburetors ? Why not a Chemical Chamber of Commerce ?

Must We Keep This White Elephant?

—Philadelphia Public Ledger

They Say:——

I well recollect that at the time the tariff law was passed, it was predicted it would destroy our foreign trade, yet under it our foreign commerce—both imports and exports—have steadily increased until they have reached the highest volume known in all the peace-time history of our country.—*Herbert Hoover.*

Chemistry has added unmeasurably to the national wealth and income of the nation through the utilization of waste and the economic gain achieved thereby, but the elimination of the greatest item of waste has still to be accomplished, namely that caused by sickness, disease and premature death.—*Charles H. Herty.*

From my own experience, it is easier on the whole to manage big affairs than small ones. In small business if you make one mistake it means bankruptcy but in big business you can make mistakes and yet come out all right at the end of the year.—*Sir Alfred Mond.*

Before co-operation comes in any line, there is always competition pushed to a point that threatens destruction and promises chaos; then to avert ruin, men devise a better way, a plan that conserves and economizes, and behold it is found in co-operation.—*Elbert Hubbard.*

A statesman may do much for commerce, most by leaving it alone. A river never flows so smoothly as when it follows its own course, without either aid or check. Let it make its own bed; it will do so better than you can.—*Julius C. Hare.*

We are at the beginning of a period of replacement of natural products by products made by synthetic and partially synthetic processes, and our industry is peculiarly to the forefront of this development.—*Lieut.-Col. G. P. Pollitt.*

If we are going in for Government ownership, let's go in the front door, not in the back. There's not a word in our Constitution to authorize the Government selling electricity and fertilizer.—*Senator Millard E. Tydings.*

The German market is loaded with dyestuffs of American manufacture, which are underselling the German products.—*Col. Herman A. Metz.*

Business cannot rightly be compared to war any more than gambling can be called finance.—*The Eaglet.*

We cannot overestimate the far-reaching influence of the increasing employment of scientific men in industry within the past generation. I refer to the employment of chemists and engineers in the field of production.—*E. P. Lynch, Pres., Nat'l. Assn., Paint Distributors.*

We are facing an age of industrial co-ordination. The formation of alliances with people you sell and with those in the same line of business is one of its developments.—*A. D. Whiteside, President, Woolen Industry.*

Advertising lights up the field and shows you where to shoot—like the star-shells used in war.—*The Eaglet.*

Ten Years Ago

(From "Drug & Chemical Markets", June 1928)

Government smokeless powder plant, built by du Pont Engineering Co. near Nashville, Tenn., has opened. Sulfuric acid unit, the first in operation, is completed two months before schedule.

A shipment of 350 flasks of quicksilver enroute to New York from Braun-Knecht-Heimann Co., San Francisco, and valued at $45,000 is stolen from Erie Railroad freight yards at Croxton, N. J.

Glycerin, made by the fermentation of black-strap molasses, has been discovered by Dr. A. B. Adams, head of Revenue Division of Chemistry, Internal Revenue Bureau.

Dr. Chas. L. Parsons announces that word has come from France requesting the American Chemical Societies permission to organize a French Section of the Society.

Formaldehyde price is fixed at 16¼c lb. by War Industries Board. The previous manufacturers and second hands' quotations were at 20½c and 18c lb. respectively.

The Government has advised a general meeting of naval stores operators in session at Meriden, Miss., that naval stores is considered a non-essential industry.

United Piece Dye Works, Loci, N. J., discontinues the manufacture of dyestuffs. This department will be taken over by E. I. du Pont de Nemours & Co.

Baugh Chemical Co., wins suit in the amount of $139,433 from Davison Chemical Co. Suit was brought for non-delivery on a contract of sulfuric acid.

National Aniline & Chemical Co., celebrates opening of new office building at 21 Burling Slip, New York with informal luncheon and reception.

Butterworth-Judson Corp., Newark, has begun the construction of its new $250,000 picric acid plant, adjacent to its present holdings.

Jones & Laughlin Steel Co. awards contract to Koppers Co. for construction of by-product coke plant of 300 ovens.

Specifications

A New Buying Technique

By F. J. Schlink
American Engineering Standards Committee

INDUSTRY like all human enterprise, tends to maintain traditional methods long after they have ceased to be adequate to needs. Even until a few decades ago, when goods were made by handcraft methods, when processes were simple, when sales were often made close to the point of manufacture, or in the workroom itself, and when the total variety of goods was a fraction of the present complexity of manufactured articles, mostly of new and unfamiliar kinds, one's unaided senses or the crudest test with the simplest implements, one's finger nail or a jackknife, provided a sufficient guide for almost any purchase. Even the tricky wooden nutmeg of the Yankee peddler days could have been detected by a pocket-knife in an exploration of the interior of this homely object.

On the other hand, an enormous amount of adulteration of products occurred even in those far-off happy days, but few were aware of what was going on. Statutes against adulteration, particularly of wines, date back to the earliest historic times. Coming down to 1860, tests made by the *Lancet* disclosed only 3 pure samples of coffee in 34 examined, and even the chicory with which the coffee was adulterated was itself adulterated.

As scientific techniques and new instruments and the pure sciences themselves developed, the public began to discover a great deal about goods which it did not know before, and research made it possible to detect alum in bread, dye in milk, and maple leaves and red lead in spices.

However, these advances in the analytical sciences have been more than offset by the extraordinary multiplication of industries. As trades have grown in value and diversity of products, it has been more and more difficult for anyone to have a picture of the abuses, adulterations, and meaningless elaborations which have grown up.

But this fact is plain. It is no longer possible for one to buy any except the simplest and most staple of commodities guided only by his own shrewdness.

This principle applies to the purchase of a great corporation as well of the individual consumer; the problems of the ultimate consumer in connection with shaving soap, coffee, radio, paint, and mahogany furniture are all reflected in corresponding, though not always identical, problems of the corporate purchasing agent. The same arguments directed at our weaknesses, the same putting of the best foot forward, the same puffing up of commonplace wares, the same ingenious applications of pseudo-scientific reasoning, occur with respect to industrial goods as with consumption goods, except that the industrial buyer is a little less romantic, a little less luxurious, and a little less easily persuaded. In all buying not carried out for purposes of conspicuous display, and where economy is a factor, it is necessary to seek the aid of technical requirements as to materials, processes or performance, or some combination of these three, plus laboratory or factory tests of varying degrees of elaborateness or difficulty. There are 34 manufacturers of "gyp" fuses and but 20 of types approved by the underwriters, indicative of a conscienceless traffic in public hazards. Naphtha soap innocent of naphtha, "engraving" that never

"Your Money's Worth" of which Mr. Schlink was co-author, created a sensation when published a year ago, but like many a bombshell its scattered force hit some innocent bystanders. In discussing purchases upon definite specifications, however, he is handling a very tangible subject of close concern to both the buying and selling departments of the chemical industry.

saw an engraver's press, fence wire so thinly galvanized that rusting begins on the manufacturer's own shipping platform, paint adulterated with all sorts of inert and substitute ingredients, are all too common and some are absolutely typical of their trade, and cannot be guarded against except by having exact information about goods.

No degree of reputation or of good intent on the part of the manufacturer can compensate for lack of exact knowledge on his part as to the proper technical requirements in the making of his product, or lack of research to determine new methods, new materials, new ideals of performance. The pressure for larger sales often drives him to excessive speed and a cutting of corners that may mean serious defects in his output. Extraordinary competition between industries is another great conflict presenting a reason for caution. Several of our largest industries have upward of 80% excess capacity. As a result purchasing power lags behind extensions of capital investment. All these factors tend to increase the pressure for sales. The expenditure for sales promotion makes an amazing contrast with the expenditure for research.

The Technique of Selling

Every purchasing agent is familiar with the techniques against which he must be on guard. Aside from persistent solicitation, made classic by the life insurance salesman, there is the ever-present stressing of advantages and ignoring of drawbacks; and the treating of minor or non-essential qualities as though they were of tremendous importance. "Repetition is Reputation", says the National Outdoor Advertising Bureau, itself with due iteration. There is the propagation of high sounding names for commonplace goods, and the introduction of pseudo-science into selling, well illustrated by the salesman who showed micro-photographs of paraffin base oils versus asphaltic base oils, while oil of both kinds was being pumped into his company's pipe lines.

We overestimate skill of our purchasing technique. The buying standards of mid-Victorian days, the drive of barter, and haggling as to price, without the slightest knowledge of what that price obtains in service and performance of the goods, are common to-day. We all know buyers who, with uncanny prescience and through a quite inexplicable generosity of suppliers, are "getting rock bottom prices" on everything, whose price arrangements are so low that they must be kept "in strictest confidence", and who have developed an unbounded trust in some particular supplier who assures them that no other product can be quite so good as his own, and no other price so low, service considered. Yet even a slight knowledge of purchase methods shows that competitive bidding on established requirements is practically unknown in businesses which have a turnover of fifty millions and more. I find purchasing agents who think themselves competent to buy on judgment almost any commodity from deck paint to tooth paste, and who turn pale at the idea of spending $25.00 to test a sample of glue on a $10,000 purchase.

On this head, C. F. Hirshfeld, in the National Electric Light Association Bulletin, says:

> "If I may be permitted to say so, the great effort seems to have been placed on the development of trading ability; the ability to maneuver the vendor in some way into such a position that you scare him or coerce him into giving you some sort of price advantage or other equivalent concession.
> "I have seen very few purchasing organizations or departments which make any real effort to determine legitimate values and therefore prices, and fewer still that have any organization for doing such a thing."

What Are Specifications ?

In a word, a specification is a definite statement, addressed usually to a producer, of what is required in the way of composition, construction, utility, durability, efficiency, texture, shape, form, or dimension, in goods or processes. Does General Motors send a boy to a grocery store when it wants a cleaner for a dirty painted wall ? Not at all. Under the prosaic name of "painted surface cleanser", it sets down a simple formula in its specification 2404M, to which is added information covering purity of ingredients, together with the statement that the material is to be used to clean painted walls and woodwork where they are very dirty, as a substitute for repainting. The specification further plainly states that if too much of the material is used, the paint will be injured or removed.

The theory underlying the specification technique is simple. Suppliers evidently do not know what is best to supply, as is witnessed by the fact that whenever possible they produce goods of varying characteristics for which they claim varying advantages. Or when they do know what is best, the old and the new competition frequently forces them into the manufacture of inferior or meaningless variations. Therefore, says the expert buyer, let us decide for ourselves on sound technical advice which among many types of articles offered, best combine the qualities we need at a minimum expense, *all costs considered*, and then prepare a specification that will make it possible for the manufacturer to know exactly what we want and for our inspectors to determine when such requirements have been met.

Why Are Specifications Effective ?

The influence of specifications arises in the main through eliminating waste arising from forms of competition based on meaningless or misleading claims, pettifogging comparisons, and competition along curious lines that are literally labyrinthine in their complexity and interrelationships with other goods and other markets.

Specifications force business to follow direct lines from need to product. They penalize useless expense to provide fictitious appeals. They consider not only talking points and selling appeals, but disadvantages, defects and difficulties. They cut out futile, time-consuming correspondence in which neither side knows precisely what it is talking about. They sharpen the edge of inspection, reducing it oftentimes to an instrument of precision capable of eliminating all or nearly all the manifest intangibilities and variabilities of personal judgment. Through specifications, buyer and seller speak the same language and that a logical one, bereft of magic, non-existent distinctions, and ambiguities.

For every purpose there is a needed degree of quality and a degree beyond all reasonable requirements and not worth the extra cost. The object of specifications is to determine the equation between cost and performance and then to set bidders into the position of furnishing the same or equivalent goods at prices reflecting their own skill and efficiency.

Altering Requirements

It is often assumed that the buyer under specifications fails to reap the advantages of innovation. His own lack of open-mindedness is at fault, if his specifications fail to take advantage of advances. The user must be ever ready to alter his requirements. The very existence of a specification fortress such change, by focusing attention of critics upon obsolete or obsolescent items. If the government, for example, maintains a specification containing out-of-date conditions, the whole trade interested raises its voice in criticism and protest, but in fields where no specification exists, the buying is still done by guess and under the guidance of a not too vigilant providence.

In much industrial buying price analysis must be used and this in turn is dependent upon the specification technique. Unless one is content to take the market as one finds it, one cannot decide what he should pay for a chemical until he knows what it consists of, what are the methods of its manufacture, the limits on its impurities and the kind and value of by-products. It is not necessary however to know either the composition, special qualities, or claims of all suppliers of this chemical on the market. Yet this latter is practically the obligation of the purchasing agent who buys without specifications, or obviously he may miss something very important. If he buys on specifications he can make a serious mistake only by excluding some good product by some over-restrictive clause of his specifications or by failure to exclude some bad product by some clause which is omitted or is too loosely expressed. In either case, if his trade is worth having, he will hear from the manufacturer or group of manufacturers who lost the business, and the damage will be corrected.

Mr. Gushee has cited a case where the price of a product dropped from 70 to 40 cents per pound through the simple expedient of the purchasing agent's ascertaining a manufacturer's production cost and using that information in negotiations. This can be repeated for thousands of commodities particularly the simple chemical mixtures and compounds that make up such a considerable proportion of ordinary purchasing—furniture polish, lubricating oils and greases, boiler compound, and a thousand other common products. It is usually not necessary to define the manufacturer's own cost but only to define the cost of a standard product meeting an acceptable specification. If the producer's goods cost far more than they should, it will devolve upon him either to change his method of manufacture or increase his efficiency or eliminate some non-essential characteristics; all of which are good for the buyer and for the trade.

The Fear of Specifications

The existence of a specification frequently forces the incompetent or unenlightened manufacturer to research in order to bring himself up to the level of the skilled producer. There are sizable manufacturers of paint, whose knowledge of the technique of their trade is so slight that they are unable even to interpret and execute the federal specifications for paint. Obviously such producers fear specifications. Many a producer has for the first time discovered his need for technological brains in his plant upon trying to produce goods under specifications whose potency in eliminating the unfit he did not hitherto suspect.

Dr. Bosch Talks on I. G.

Details of management in the newly reorganized I. G. Farbenindustrie were recently outlined by Dr. Bosch, according to Consul Claiborne, Frankfort on the Main.

In outlining inside facts concerning the corporation, Dr. Bosch said:

"After the big fusion, it was found to be easier to reorganize plant output by allocating production to one or two plants than to reorganize sales and management. Dyestuffs sales were concentrated in four offices with territories divided according to State boundaries. Soon it became apparent amalgamation of these offices in Frankfort would be desirable. It is now planned to centralize the sales of pharmaceuticals in one office also.

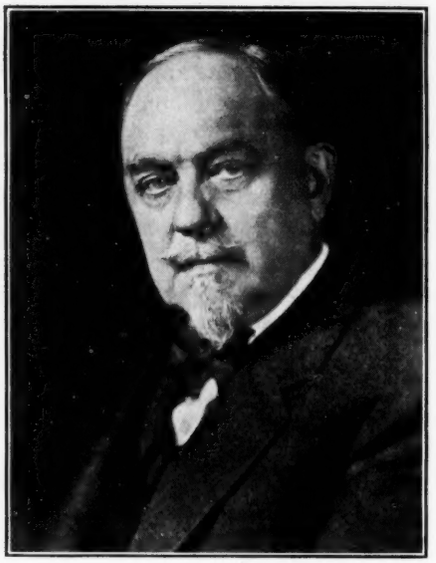
"A committee of 26 now meets in Frankfort every three or four weeks, when matters which had already been discussed by expert committees and prepared for decision are considered. Moreover, at such meetings the general outlines of the company's policy are drawn up. In the expert committees, to which the directors of all the single departments belong, the real work of the concern is accomplished, complemented by the co-operation of numerous technical and subcommittees. The board members who do not belong to the working committee of 26 act as heads of departments.

"The former directors' boards are now represented in the I. G. by the 'management council' (Verwaltungsrat), which has surveyance of the company's business, supervision of the managing board and the choice of directors, and the authorization of agreements with other countries. Its members also have the right to attend the regular meetings of the managing board, but have merely advisory powers."

The Sales Tax

a remedy for

Chaotic Tax Conditions



By William C. Cornwell

Economist, J. S. Bache & Co., New York

SENATOR SMOOT'S long experience as a legislator combined with his native ability and level-headed judgment, places him in first place as an authority on many phases of Governmental procedure, and especially as to what methods or systems are most beneficial to the country—incidentally also as to whether, from a political point of view, it is possible to put such methods or systems into operation.

If there is any subject above all others upon which Senator Smoot is exceptionally well posted, it is the subject of taxes.

When he says that the sales tax is the most effective, the most just, and the most equitable of all taxes (as he has said recently), the statement can be relied upon by business people who have given the subject only casual attention, but who have vaguely come to the same conclusion.

This, it must be understood, is the deliberate conviction of an authority who has fought in all kinds of tax wars, has investigated every conceivable kind of tax, has seen the worst form ever conceived put into operation in this country, has endeavored to ameliorate its injustices and unravel its complications, and has arrived at the conclusion, evidently, that a complete and drastic change in the system would be inestimably beneficial to the whole country.

But what about the political possibility of the adoption by Congress of this great reform ?

On that point, too, Senator Smoot is an authority, and he has also recently stated that "the adoption of the sales tax in the United States is only a question of time."

Near Adoption by Senate in 1921

Seven years ago Senator Smoot was Chairman of the Senate Finance Committee. He still holds that position. Seven years ago he had his Committee introduce a bill for the sales tax—a bill which contained carefully worked out plans for its operation, a tried-out and perfected plan based on the successful experience of other countries with this same tax. And this bill, which was introduced in the Senate in 1921, was defeated by only eight votes.

And now Senator Smoot has again sounded the call to arms for the sales tax. In a few words in an interview not long ago in the *Washington Times*, he has once more brought out in blazing relief the merits of this simple, just and painless method of taxation, which thus far has been denied to the American people because of blind political prejudice.

Senator Smoot's Arguments

As an argument in favor of this tax, Senator Smoot cited the present uncertainty over how much revenue will be raised next year by existing taxes. The dispute, he said, between Congress and the Treasury Department as to how much of a cut could be made in taxes, was another reason for adopting the Sales tax. He predicted that ultimately it would be adopted, because of its simplicity and equality of application. He estimated that a one per cent. sales tax, applicable on the ultimate consumer, would produce an annual revenue of at least $1,600,000,000, which would allow all other taxes, except the tariff, to be repealed. It would apply to each individual in proportion to his purchasing power, thus scattering the Federal tax burden lightly upon the poor and heavily on the rich. He urged adoption of the sales tax as a means of ending all future disputes over taxation, and said:

"We must come to the sales tax, some day. It is so simple of application, and its application is fair to all classes. It has been said that the sales tax would transfer the tax burden to the backs of the poor, but that is nonsense. The rich will pay the heavier taxes, because the rich buy high-priced automobiles, diamonds, costly furs and huge homes. The rich will pay $125 to $200 for a suit of clothes, and the poor man pays but $25 or $50. In just that proportion, the rich would pay the heavier tax.

"Nobody can avoid this tax. It does away with hordes of Federal snoopers. It reduces the cost of collections. It eliminates costly law suits. Business

can plan ahead for years, knowing exactly what tax it will have to pay. All uncertainty is eliminated. All confusion is ended.

"When a change in rate is desirable, there will be no need for redrafting the whole law. Only one word need be changed. Instead of saying one per cent. we can substitute three-quarters of one per cent. and the new rate is enacted. The Sales Tax is the most effective, the most just and the most equitable of all taxes. Its adoption here is only a question of time."

Chaos in Present System

Once a year every citizen of the United States who can be dragged into a suspicion of having a taxable income, is involved in a small purgatory due to the difficulty of making out tax returns under the present iniquitous Federal law. Whatever is set down as the amount which the victim thinks he ought to pay, is liable to be wrong. Chaos prevails in the Federal Revenue Bureau at Washington because of the complicated and entangling provisions of the present tax law.

There are at present more than 19,000 unsettled cases before the Board of Tax Review, and these involve deficiencies of approximately $550,000,000. At the rate petitions are being filed with the Board, they are exceeding by more than 200 cases each month the number that can possibly be disposed of.

This is because under this iniquitous system it is assumed that in each tax case there is a precisely determinable legal liability which can be determined (if disputed) by the Court—as a last resort, by the Supreme Court—whereas in tens of thousands of cases there is no precisely determinable legal liability.

And every time the law is amended, the complications increase—become more hopeless, entangling, and exasperating. The income tax turns up every month new questions in such volume that no system of courts can ever possibly decide them.

The individual income tax in this country has become so restricted in its application that it is now a class tax instead of a general tax. Less than 10,000 taxpayers contribute half of the whole income tax. Out of a total population of 117,000,000 people, there are only 2,500,000 individuals and about 250,000 corporations, with altogether 3,000,000 or more stockholders, who pay any income tax at all.

The Remedy

What is the remedy for the chaos, the injustice, and the great irritating burden of American taxation ?

The business answer is that the simplest form of the sales tax would clear up the whole situation, and if all other taxes were abolished, except customs, sufficient funds could be raised easily and without disturbance to provide for all Government expenses.

What could be simpler than this—namely, that every one in business keep a record of his daily sales ? That once a month these be added up. Then one per cent. of this total is to be computed. A check for the amount of this one per cent. is sent to the Government. This is the only tax return required. The record is closed, up to date.

In the bill introduced by Senator Smoot in 1921, some of the details were about as follows: In order to place on the books of the Government the name of every dealer, each individual who made a business of selling goods would be required to obtain a Federal license at the negligible cost of $1 per year. All merchants, corporations or individuals who make a business of selling goods, wares or merchandise, would be required to keep a record of gross sales and at the end of each month to send in to the Collector of Internal Revenue a statement of the total amount sold, together with a check for one per cent. of such amount.

It was considered expedient to exempt a total of $6,000 in gross sales for the year, in order to favor the small farmer as a producer of agricultural products.

It will be noted that this is not a retail tax to be paid by the purchaser, like the former soda water tax. The public would never be annoyed by it, as the merchant would pay the tax direct to the Government once a month on his gross sales.

Simplicity and High Yield

This is undoubtedly the simplest system of taxation ever devised, and yet in its best form it would probably produce in this country, with the present enormous amount of turnover of goods, some three billion dollars yearly at least, and possibly more.

It may at once occur to the reader that the addition of one per cent. to each sale, as a product passes along in its manufacture from maker to distributor and finally to the customer, would ad an undue amount to the price. The fact is that the total addition is actually negligible.

The sales tax, where passed along with each sale from wheat to flour, to bread, would add to the cost of a loaf of bread less than one-sixth of one cent per loaf. It would add to the price of a pound of beef four-tenths of one cent per pound, and to a pound of pork a fraction less than one cent per pound. To a suit of clothes retailing at $60, it would add $1.57, to a hat 3 cents, to a pair of gloves 6 cents, to a yard of silk 4½ cents. But these additions would be lumped in the price and not added as a separate item. To a rubber tire which passes through eleven stages, from crude rubber and raw cotton, retailing at $35 per tire, it would add $1.14, or a little over 3 per cent. which the consumer would have to pay.

And this percentage on a rubber tire represents probably the highest percentage which the tax would add to anything. The average addition to cost would be much lower.

A sales tax of this character, therefore, will not increase prices except to a very small percentage—an average of 2 to 3 per cent. Present taxes are passed on to the consumer wherever possible and in very much larger percentages; consequently, the general effect of this tax would be to actually reduce prices.

The sales tax is so simple that it could be easily computed and easily collected. The clerical force required to administer it would be ridiculously small in comparison with the vast and increasing army of people in the present revenue service.

The difficulties of the taxpayer in computing his present tax and in rendering his statement to the Government, requires in the majority of instances, either the services of a professional expert, or skilled experience on the part of the taxpayer. It was estimated in 1920 that the preparation of tax statements was costing our citizens over $200,000,000 yearly, and the cost is probably much greater now.

Light Burden Fairly Distributed

The sales tax is so simple that anyone would be able to figure it out without effort, and supervision of its collection would be easily effected. The great clerical Government forces, the services of experts to help the taxpayer, all running into hundreds of millions of dollars each year, would be largely saved. In fact, the simple computation required by the sales tax would be practically without cost, and the distressingly complicated tax return, the doubt about its correctness, would pass into the discard. Payment of the tax would be a simple mathematical operation, leaving absolutely no question for dispute. All worry before and after would be abolished.

The tax burden should be widely distributed and fair to every one. Under the present system it is being narrowed down, with more and more people escaping payments and business is standing in the gap, bearing practically the whole burden. If a General sales or turnover tax were adopted, all this would be remedied. Such a tax would spread out over so vast a number of people that each would pay only a very little—the amount depending upon the large or small spendings of each, and the sum realized would be so vast that practically no other tax assessment, except the tariff, would be needed to run the Government.

Nobody would feel any burden, and in fact few would know that it was being paid, as the tax would be added to the cost of the thing bought and the addition would be infinitesimally small.

Successful in Other Countries

The test of merit is successful and long-continued usage.

The sales tax has been in operation in the Philippines without a hitch for over twenty years. It is the largest revenue producer in the Phillippine tax law and works with the utmost smoothness. This method of taxation was adopted by the French Government in 1920. Its yield and effectiveness of administration have been steadily improving. At the present time the returns which it produces are a very important part of French tax receipts. It has been in successful operation in Germany for many years and is a very great revenue producer in that country.

No country which has once adopted the sales tax has ever abandoned it.

It is simple, fair, and just in its distribution of the burden, and in the United States it will produce an enormous revenue with the least amount of friction.

Here is a great reform, approved by the best business minds of the country and opposed only by politicians. The present system is a nightmare of inconsistency, complications and injustices.

The remedy is the sales tax, and business should organize for its inauguration. It will bring great and lasting benefits, and is bound to be adopted some time in the United States.

Britain and the Cartel

The prospect of the British chemical industry allying itself as a unit with its Continental competitors appears to be rather remote, according to Trade Commissioner Homer S. Fox, London. Agreements have been made, both by the British and other European chemical producers, in the matter of particular chemicals, but it is unlikely that these agreements ever will be extended to cover the entire range or even the majority of chemical products.

Too much weight has been given in some quarters of the United States to the possible effect on the American chemical industry of agreements and conventions among European producers. A trend toward amalgamation and centralization exists both in the United Kingdom and on the Continent, but it is claimed not to be based on hostility toward any particular country but on economic conditions, such as over-production capacity, etc.

As far as the British chemical industry is concerned, its chief aim at present is in further increasing its trade with the countries within the Empire. The development of this Empire trade has been one of the outstanding features of the chemical trade of the United Kingdom during the past few years. During this time there have been marked fluctuations in the total value of chemical exports, but each year shipments to the Empire have risen. Under the stimulus of the general campaign to stimulate Empire trade, a policy which has been specifically announced by the Imperial Chemical Industries, Ltd., the trend may easily become more pronounced in the future. In 1926 the value of chemical shipments to Empire countries was more than £10, 000,000 or nearly half the entire British exportation of chemicals, drugs and dyestuffs. In 1923 the ratio of Empire exports to total export trade was only 37 per cent.

In view of the outstanding importance of the Empire trade, to say nothing of the trade with the United States which amounts to about 8 per cent. of total exports, it is unlikely, it is pointed out, that British chemical producers will consent to take any steps which might adversely affect their best markets.

Summarizing the position of the British chemical industry during 1927, Mr. Fox states that in general there was a fairly satisfactory volume of business, with a moderate upward trend toward the close of the year; general steadiness in price levels, due largely to the extension of concerted action on the part of manufacturers through conventions and sales agreements; increased centralization of manufacturing interests; the extension of production facilities in several important branches, and a marked growth in the attention given to research.

Deliveries of Chilean nitrates into France from June, 1927, to the end of March, 1928, reached 240,000 metric tons, corresponding to the deliveries of the entire preceding year, reports Assistant Commercial Attache Daniel J. Regan, Paris. It is estimated that receipts in April, May, and June will total 50,000 tons, or a total of approximately 290,000 tons for the entire year.

A P.A's. Answer to

"The Danger of Buying Below Cost"*

By Lee J. Bussman

Purchasing Agent, Bussman Mfg. Co., St. Louis

TWO THIRDS of the business firms are practically losing money, actually that many are making a net profit of less than $3,000.00 per year, while returns on earnings show that year after year 40% or two out of every five concerns are losing money.

That condition is bound to have its effect on general business conditions. The economic loss is great, and general prosperity is suffering. The volume of business can be said to be there in reasonable proportions, but the profits are not. For the past six months or so, much thought seeking remedies for that condition has been put in, and lately many articles and viewpoints have been printed and discussed. It is a fond hope that something of lasting benefit to general business comes out of these discussions, and to do that they should be constructive and not sharply controversial as some have been.

Apprehensive that rival purchasing agents may be buying at lower levels and lacking confidence in sellers' initial quotations, many a well meaning buyer, despite his better judgment, endeavors to bargain with his suppliers' salesmen.

Many Purchasing Agents feel that there is a "Danger of Buying Below Cost" but they have always recognized this and that just now the trouble could be better put down as "The Danger of Selling Below Cost". The members of the National Association of Purchasing Agents feel that the interview as reported in the *New York Times* some eight months ago gave their position. Mr. Chandler our National Secretary at that time, speaking for the members said that "Experienced buyers know that the good will of the vendor is an important factor and that it cannot be had unless a legitimate profit is allowed" and "It is poor business to be a party to a transaction where either side is going to lose money."

A lot of Purchasing Agents based on their experiences lately feel the "Danger of Buying Below Cost" is a problem to be solved more by the Sales Department than by the Purchasing Agent. They contend it is more a question of "loose selling" rather than tight buying, and that the average salesman losing sight of his real job, has developed a price complex and too often stops completely when something is mentioned of the price and later accuses the Purchasing Agents of having nothing but price in mind. One Purchasing Agent says that the talk about profitless prosperity, price cutting and other troubles lies entirely with the seller and is caused by over production in most lines and that some firms in order to get the business will sometimes sell their goods at too low a price, and that when these reductions are made, the other suppliers in that line in retaliation quote still lower prices and the cycle of price cutting has started and sometimes ends where goods are sold below their cost. This Purchasing Agent cites one instance on a commodity which he purchased in large quantities. The commodity was selling at a maintained fair price when three sellers started price cutting and finally got the price down to where it was ridiculously low. It wasn't necessary for him to drive any sharp bargain with these firms. They did all the driving, and in spite of what he tried to do to hold the market in line, they went right ahead reducing the price so much that everyone knew there was no profit for the seller. The buyer could do nothing, because he knew competitors in his line were being offered the same prices and he had to keep his Company on an even basis.

Another Purchasing Agent says that he does not feel that many Purchasing Agents are responsible for the trouble caused by the buying below cost. It seems to him as being due almost entirely to the weak-kneed policy of many sellers, due many times to the extreme gullibility of their representatives. The factory must have raw materials for the goods they make and sell, and no matter what the price may be, the goods must be bought. Of course when prices are being cut right and left, the Purchasing Agent must make certain that he is buying at as low a price as his competitor, otherwise his Sales Department would be at a disadvantage in selling their own products.

*Address before Convention of National Association of Purchasing Agents, Kansas City, May 31, 1928.

Another buyer keeping in mind that any arrangement between a buyer and a seller is undesirable unless it is mutually profitable, says that he is skeptical when he is told that he is buying below cost, because the term "cost" is subject to so many interpretations. Salesmen in their anxiety to sell him sometimes offer prices that seem too low, prices that must be analyzed, each on their individual merits, because no general rule can be laid down to govern the matter generally. The buyer must be sure that these "below cost" prices will not have a disturbing effect not only in that commodity, but result in bad temporary conditions for his own firm, because he realizes that if he is offered cut prices, his firm's competitors would probably be given them also, and that might have its disturbing features.

When Does The Seller Lose ?

A Purchasing Agent for another large company wants to know how he can tell "The Danger of Buying Below Cost" and just what standard could be used to determine whether any particular transaction results in a loss for the seller. A price which might be below cost to one manufacturer may represent a reasonable profit to a more efficient competitor in the same line, and a buyer certainly does not want to reward the inefficiency of any supplier. The buyer would have a hard time making sure the prices which were said to be below cost did not include high costs due to obsolete machinery, slow manufacturing methods, topheavy overhead and other costly inefficiencies. In the case where a buyer takes a very large part of the entire output of a seller he would have a very definite obligation to go beyond ordinary methods to be sure that he was not buying below cost from that firm, but with most of his suppliers he could not suggest an audit of books or an investigation by him of his suppliers manufacturing methods, machine speeds, raw material costs, distributing costs or financing. His medium sized and larger suppliers would rightfully resent and suspect such a fatherly interest.

But whether the real trouble and the cause for these profitless transactions is "The Danger of Selling Below Cost" or "The Danger of Buying Below Cost" or whether it is "price cutting" or "sharp bargaining", or whether it is "loose price selling" or "tight price buying" is everyones own opinion, but as Purchasing Agents having a very important position in industry, it is well that we consider this proposition strictly from the standpoint of what we can do to help business get and stay on a good firm basis, with reasonable profits for all efficient concerns who fill a want, perform a service, and have a real place in industry. Therefore let us take the subject of this discussion "The Danger of Buying Below Cost" and apply it strictly to Purchasing, in which we are all interested.

A Purchasing Agent can make a substantial contribution to the success of his firm and to general business by taking a long time view of his job and not by merely placing orders at the lowest price he can get. Any temptation which he might have to drive a sharp bargain and to force the price of goods to a point where no reasonable profit remains for the seller should be put aside because of the ill effects of that practice to our general prosperity. He should fully realize that buying right means buying from a standpoint of good quality, proper service and fair price all viewed in their proper importance. The plan of hammering the price down by shrewd bargaining tactics, even to the point where the seller sold at a loss, is uneconomic and short-sighted. Short-sighted, because you cannot establish a good long swing buying policy when you buy below cost. The successful companies won't take those orders, and therefore "The Danger of Buying Below Cost" resolves itself into a discussion as to whether it is wise to buy an item regularly needed from an unsuccessful firm. If the Purchasing Agent will look at it from that angle he will of course be convinced that the policy is all wrong and will surely and quickly get him in trouble and damage his own company in some way. A careful check up on the credit and financial standing of various bidders will in most cases tell the story. It will show just what type of suppliers are cutting their prices, taking orders below cost and in general disturbing things for everybody.

A Harrowing Example

I know of one case where a manufacturer coming on the market with a new line, placed orders for special porcelainware giving all conditions, dimensions and delivery needs. A good constant delivery was very important, because a good deal of money for an advertising and sales campaign was tied up with the placing on the market of this new line. It turned out later that a small unsuccessful company took the order, promising everything in quality and delivery, but after months of delays with delivery of only a small portion of required amounts, and of shipping a lot of material that was hardly fit to use at all, the small Company made up their mind that they just couldn't make the piece at the price at which they were talked into taking the order for. In this case the manufacturer was not too blame, he having placed the order at a fair price with a firm who set themselves up to appear as a manufacturer when actually they were only brokers, and these parasites forced the order they took on to the small manufacturer at a price below cost, allowing themselves a handsome profit. The effect on the buyer and the seller however was the same, typical of the dangers in someone getting an order below cost. The buyer in this case missed the market he hoped to reach by almost a year, money spent on the advertising and sales campaign was almost a total loss, and he could not start a suit for those damages with any hope of relief because he later found the broker and the small supplier were not financially responsible.

The Purchasing Agent is vitally interested in quality and he may as well know and remember that

he can't get quality when he buys below cost. You can't get any more than you pay for. If you buy too cheaply you actually force the supplier to "gyp" you somewhere. Adulterations are sure to result. The temptation to skimp and shade on the quality is very great when a firm has a "below cost" order. Driving a hard bargain results in poor workmanship. The goods might be furnished good enough to pass an inspector and specifications, but there is a wide difference between high quality material and material bad enough to justify rejection. If the item bought that way is for a manufacturer's finished article, the bad quality will surely reflect on the product made by the buyer and do him no end of harm. If the item bought below cost is material that must be worked, punched, drilled, turned or fabricated in other ways, the quality may be such that it won't pass thru all those operations as it should, speeds on machines might have to be reduced, dies would have to be changed, ground, or adjusted more, and rejections on all operations would be heavy.

The buyer is interested in service. He wants the material at the right time and in the correct quantity. He may be able to place a "below cost" order, and then have his supplier spend a lot of time trying to find a cheaper source of supply for his raw material. He may force his supplier to make experiments in an effort to speed production, all to the detriment of the appearance of the finished article. He may force his supplier to hold up an order while they wait to run out his material on a different machine or in a different way, and all the while the buyers firm is without the goods, ruining efficiently planned production schedules in their plant, keeping them from making deliveries to their customers.

Continuity of Service

The good Purchasing Agent wants to place his orders with firms who can supply him again, he wants continuity of service. He only buys after investigating the source of supply, because he wants to establish a good source for an article and buy it again and again from these established sources. By buying "below cost" the Purchasing Agent should remember that he is running the danger of putting his source of supply out of business. Just when he is depending on a supplier, the buyers "below cost" buying might put his source of supply in such shape that they are unable to furnish additional material. He may be doing business with some small concerns who would grow if treated fairly, and later be of real value to him. The small concern might not clearly see all the various costs, overhead, etc. on a particular article, and the buyer who takes advantage of a situation like that, convincing the small firm that they are getting an order at a fair price when actually it is below cost, is a buyer who not only violates all honest business principles and ethics, but is putting out of business a lot of small but good firms, and that is sure to hurt the buyer as well as business in general.

The "Danger of Buying Below Cost" should be fully recognized by the buyer, who should be interested in keeping the costs of his firm's manufactured products well in line. By driving sharp bargains he might later force his suppliers to line up against him in an agreement whereby all quote much higher than what might be termed a reasonable price. Such combinations exist now and more might follow tight buying, and they are not always contrary to the Sherman and Clayton Acts. The Federal Trade Commission and Department of Commerce have for some time seen fit to interpret those acts with a rule of reason. They realize that industry must survive and that it must make a reasonable profit to survive. I know of one case where a company thru their fault as well as some of the buyers, kept accepting orders that did not allow a profit. They took a lot of business but after some years were ruined because of no profit or even heavy losses. The other manufacturers, comparatively few in that section of the country have since been together, and keeping the example of the company who put themselves out of business, before each other all the time, have for a long time now been getting higher than reasonable prices for their goods; therefore price driving has eliminated competition here, and the buyers have been paying the bill ever since.

The Seller's Good Will

The good Purchasing Agent wants to keep informed of improvements, new methods, new materials and something that might fit his requirements better. The only way he can do that is to retain the good will of the vendor, and he does that best by being willing to pay a fair price for goods. He is in complete harmony with salesmen and Sales Departments of the firms they represent. Instead of trying to beat down a price and buy below cost, he co-operates with his suppliers in every way. In that way he can find out about methods of their production, he can give them a line on the exact use and requirements of the product made by the firm he buys for. He should give his suppliers all the information possible as to quantity not only one order, but if he buys this article right along and in what quantities. Some of these things permit a supplier to achieve mass production, get better equipment, it tells him just how much he can invest in equipment and how much time at his leisure he can invest in experimenting with new methods which will help his customer. It often leads to a slight change in specifications which does not in any way effect the use of the product, but which saves the buyer a lot of money, and that without effecting the profits of the supplier. It is a big benefit to both buyer and seller. The savings which a buyer can make by shrewd bargaining are as nothing compared to the lasting benefits he can bring by helping to reduce costs all along the line, but none of that can apply to the buyer who buys "below cost" and is thoroughly disliked by everybody. He evidences no desire to co-operate with his suppliers and they surely

are not going out of their way for him. He saves a few pennies on his purchases at times, but misses his chances to save the big money.

The "Price Hound's" Lot

The wide awake purchasing agent is always trying to find better materials so that he can help his company make a much better, a higher quantity line. He may find a material which costs more but which gives his sales department a real talking point and a big advantage over competitors. "The Danger of Buying Below Cost" here therefore is in the fact that the "price hound" gets no ideas and no co-operation whatever from his suppliers. His suppliers knowing how he places price about everything, will only tell him how by furnishing a slightly inferior product they can save him 10c per hundred, and by repeating this procedure on every order, he gradually gets the quality of his firms finished product down so that the Sales Department can't sell it. On the other hand the man who wants to pay a fair price and encourages co-operation with his suppliers, has them all thinking constructively for him. Two firms might be making a line of office equipment and machinery. Suppliers in one case will come in and tell the good buyer where by paying slightly more they can give him better steel, say one that resists rust. The buyer investigates and finds that that point is of vast importance to his Sales Department, it will give them a big jump on their competitor, so he places the business at a fair price and helps in time to double his firm's business, while the buyer of the competing firm, known for his sharp tactics will only receive suggestions to the effect that if he takes a blue annealed sheet with a slightly rougher finish he will save thirty cents per hundred pounds. He buys the material figuring he has saved some money, but in that way keeps cutting the quality of his firms product and reduces their sales. I have heard of a case just like that in which two companies were making a line of furniture and beds in both wood and steel, and of course the finish and colors of that line will do more than anything else to retard or stimulate the sale. One buyer was forever looking for better colors, new ideas in the various paints, enamels and lacquers, he treated his suppliers fairly, paying a just price and they in turn gave him any number of suggestions on the finish of his line, with the result that his company quickly doubled their business, and are keeping it, while the buyer for the competitor was forever trying to shade the prices, trying to get something for nothing. Cheap substitutions and adulterations were suggested to him and he took them feeling he had saved money, but what he actually did was to make it harder and harder for his firm to compete, their sales kept dropping.

The fair buyer in effect has the laboratories and engineers of all his suppliers working for his company. They are constantly conducting tests, experiments and changing methods and thinking for him. They will keep him abreast with the times, with everything new in industry. But the buyer who is not fair is in danger of losing all of that service and all of those ideas. The firm he does business with and with which he places those "below cost" orders are only thinking destructively for him. He can expect no help.

Right Price Not Lowest

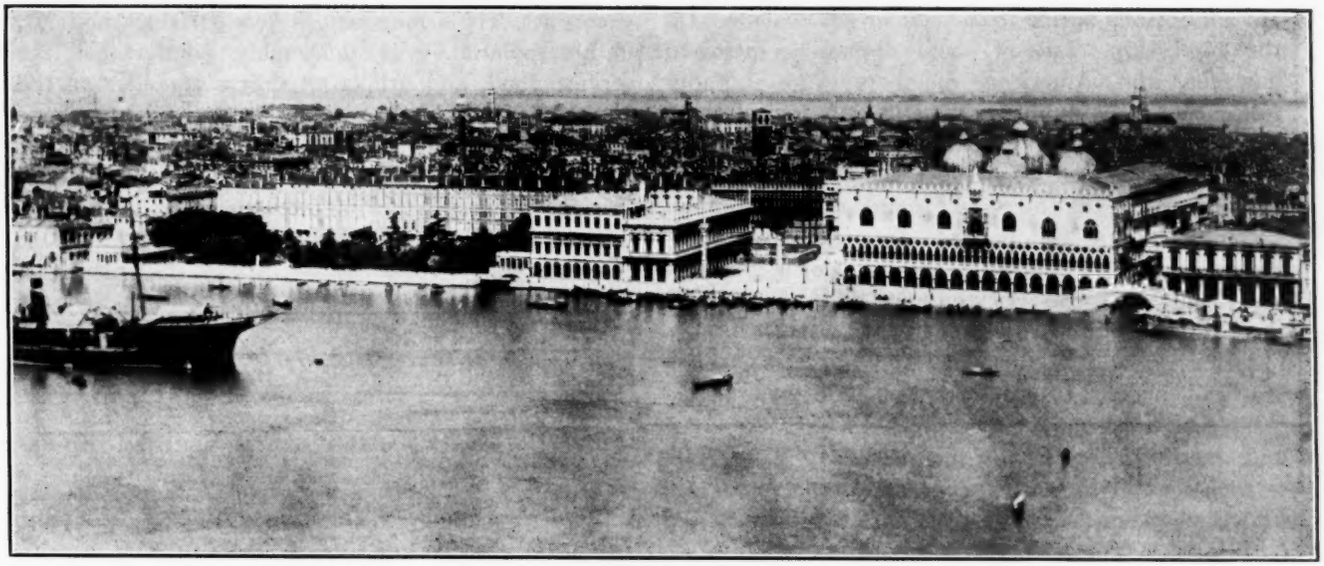
"The Danger of Buying Below Cost" is a very definite danger not only to general business conditions but directly to every Purchasing Agent in the every day operations of his job. The question of buying at the right price instead of buying at the lowest possible price is an important one. The right price is certainly not the lowest price obtainable, but let us say as it was said in a study of Scientific Purchasing which was presented at our National Convention two years ago in Los Angeles, that "The right price is the lowest one consistent with sound business procedure, which at the same time assures contained satisfactory relations with the supplier. The meaning is that the price at which we buy must be one which assures us of the greatest advantage in view of the market and cost to the supplier, and also allows him a margin of profit satisfactory to the requirements of his business.

Purchasing Agents must do their part to maintain general business prosperity and they must see that their buying policies are consistent with the broader and sound economic policy. They must see that any narrow, selfish and destructive policies must pass. They must see that the buyer and seller are dependent on each other, and that anything which might undermine the stability of either is bad for both. The buyer should remember that business in general is made up of a lot of individual transactions, and that he can do his part to stamp out any evils such as price cutting and buying below cost. Those evils are responsible for destructive competition and they are affecting the status of business in general.

A P.A's. Commandments

The Purchasing Agent should feel his true responsibilities to his employers, to general business and to himself. He should not allow his desire to save money for his firm lead him to underhand buying methods. He should keep his business transactions unfailingly up to a high standard. He must see that in protecting the interests of his firm, that he at all times gives his suppliers a square deal; as Mr. Lewis A. Jones our National President recently wrote, "He should exemplify all that is best in business ethics in his association with the Sales Departments of other companies."

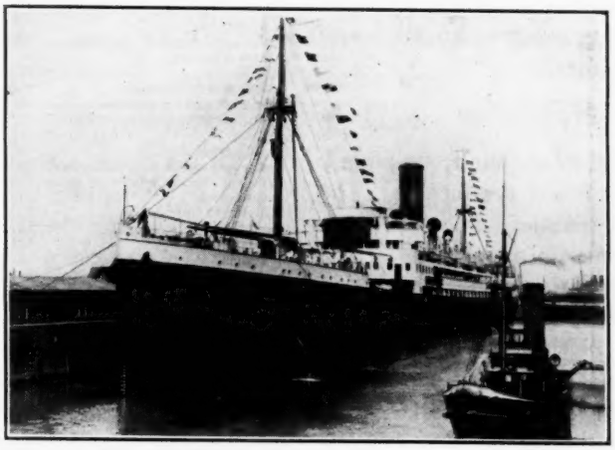
Public Service Commission, Albany, N. Y., approves new freight rates of the New York Central (East) on benzol, in iron drums or tank cars, carload, from Utica to stations on Boston & Albany; Canaan to Hudson, Upper, inclusive, and Chatham Center to Brookview, inclusive, 28 cents. reduction 3 cents per cwt.; effective April 20, under authority of Rule 58, Circular No. 68.



Trade Winds - Counter Currents

of the Cruise of the S.S. "Lutzow"

EVEN the most unobservant member of the Nitrogen Conference has carried away with his stock of facts, statistics, anecdotes, gossip, and very pleasant memories, the disconcerting experience of having had close contact with Americans who do not "run true to form," and the more than disconcerting knowledge that the fundamental



conception of the nitrogen problem differs considerably in different countries.

Throughout Europe, at a few thousand conclaves of various and sundry sorts from the Versailles Peace Conference to the Economic Congress last summer, Americans have taken a pretty active part in the proceedings. Even very "unofficial observers" have exerted an influence that

did not entirely spring from their presence alone. On the good ship "Lutzow" and discussing nitrogen, however, the American members were notably reticent. In the public discussions only two of them took any active part at all. In the vastly more interesting and significant private conversations on the boat deck, in the smoke room, and on various automobile trips ashore, the Americans, whatever the subject, were modest to the point of self effacement. What America is planning to do in air nitrogen they did not discuss, although Messrs. Du Pont, MacIlravey, and Landis, represent interests which are well known to be fostering ambitious plans. What America has done they preferred to let the facts and statistics speak for themselves. All of which was certainly not in accordance with the preconceived European notion of American psychology.

How very radically different is the view point of various leaders in the industry from different parts of the world did not appear at all in the resolutions for public consumption distributed to the press of the world. However, no thoughtful member of the group came away cherishing any delusions on this score.

Dr. Bueb, representing the Germans, obviously believes in mass production at lower cost with the inevitable economic accomplishment of an extended market not only at the expense of natural nitrates, but also in an actual extension of agricultural uses of various nitrogen bearing chemicals.

Mond on Over Production

Sir Alfred Mond, on the other hand, is plainly apprehensive of the dangers of over production. The representatives of the smaller nations hold firmly in their minds the thought that air nitrogen is a war munition, and they are nervously jealous that their own country shall be, in this respect, chemically independent. For them neither fertilizers, nor ammonia, nor any new chemical processes consuming nitrogen are of prime consideration. Come feast or famine they are determined that their own country shall have an adequate air nitrogen equipment.

Pretty obviously the tangible results of a Conference that rested upon such different levels of interest cannot be great. There is agreement only upon the very broadest terms. These terms are, in fact, so inclusive that they verge dangerously upon becoming impotent generalities.

Nevertheless, the conference was by no means a failure. If it did nothing more than to define carefully the position of the various interests, it was useful. But it did much more. It brought a number of men whose influence in this field is dominant closer together and while the cruise was hardly up to all of the beautiful picture of "bold barons afloat on the huge white yacht, with banqueting to tempt Lucullus and scuppers running with champagne," which the vivid imagination of "Time," (May 21, 1928) painted, nevertheless, the idea of getting these men freely clear of shore and its connection with their offices was excellent. The arrangements were perfect; the boat, if not palatial, was thoroughly comfortable; the service, food, and drinks all that a traveller on the North German Lloyd expects, and the itinerary of the cruise down the Adriatic to the old Greek city of Corfu and back up the Dalmatian coast with its glorious scenery and its interesting, colorful, half oriental cities made a delightful background.

Foreign Trade Opportunities

Abraisive, finely ground, for making liquid metal polish.	*30303	Kobe, Japan	Purchase
Acid, Cresylic and carbolic	*30330	Cork, Ireland	Do.
Chemicals	*30277	Bombay, India	Sole agency.
Do	*30331	Antwerp, Belgium	Purchase.
Chemicals, industrial	*30339	Algiers, Algeria	Agency.
Color, bronze	*30328	Schwanden, Switzerland.	Purchase.
Colors, earth; and coal-tar dyes.	*30305	Bucharest, Rumania	Agency.
Glue	†30342	Caracas, Venezuela	Do.
Lacquers, nitrocellulose	†30356	Barcelona, Spain	Do.
Naval stores	†30306	Valparaiso, Chile	Do.
Do	†30313	Concepcion, Chile	Purchase.
Paints and varnishes	†30292	Rio de Janeiro, Brazil.	Agency.
Pitch, cottonseed	*30304	Liverpool, England	Purchase.
Polishes, metal	†30319	Berlin, Germany	Agency.
Textile and leather industry chemicals and inks.	†30292	Rio de Janeiro, Brazil.	Do.
Varnishes, lacquers, and enamels.	*30305	Bucharest, Rumania	Do.
Insecticides, agricultural	†30951	Galatz, Rumania	Agency.
Oil, linseed, raw and boiled	*30952	Ceuta, Spanish North Africa.	Purchase.
Oils, creosoting	†30983	Vienna, Austria	Agency.
Oils, medicinal, animal and vegetable.	†30996	Cairo, Egypt	Do.
Paint pigments, aluminum, and varnish.	*30950	Calais, France	Purchase.
Rosin	‡30967	Moji, Japan	Do.
Rosin and turpentine	†30951	Galatz, Rumania	Agency.
Rosin oil and turpentine	†30996	Cairo, Egypt	Do.
Soda, caustic, and turpentine	*30952	Ceuta, Spanish North Africa.	Purchase.
Wax, carnauba	†30997	Tokyo, Japan	Do.
Cadmium oxide and carbonate.	*31107	Leipzig, Germany	Purchase.
Glue for manufacture of gelatine sheet.	*31108	Palermo, Italy	Do.
Industrial chemicals	*31116	Montevideo, Uruguay.	Agency.
Insecticide, liquid	†31103	Alexandria, Egypt	Both.
Matches	*31104	Liverpool, England	Do.
Matches, safety, wooden	*31182	Asuncion, Paraguay	Do.
Naval stores	†31080	Hamburg, Germany	Agency.
Oil, linseed	*31100	Talca, Chile	Purchase.
Oil, linseed, raw and boiled	†31102	Alexandria, Egypt	Both.
Paint pigments, oxides, and raw materials.	†31101	Montreal, Canada	Either.
Paints, ships'	*31128	Genoa, Italy	Both.
Paints and varnishes	*31100	Talca, Chile	Purchase.
Pyrophosphate	*31085	Dublin, Germany	Agency.
Rosin	*31106	Chemnitz, Germany	Purchase.
Sodium uranate, yellow and orange.	*31105	Meissen, Germany	Do.
Sulfur, crude and lump	*31185	Freiberg, Germany	Do.
Tar, black, 100 tons	*31183	Tripoli-Marine, Syria	Do.
Wall decoration materials	*31135	Wellington, New Zealand.	Either.
Borax	*31264	Coburg, Germany	Purchase.
Borax, white, crystallized, granulated.	*31237	Pirna, Germany	Agency.
Chemicals, industrial	‡31261	Karachi, India	Both.
Do	*31263	Munich, Germany	Do.
Do	*31265	Riga, Latvia	Purchase.
Do	*31266	Dresden, Germany	Do.
Chemicals and dyes	*31262	Cordoba, Argentina	Do.
Disinfectants and insecticides	*31222	Rosario, Argentina	Do.
Do	*31250	Do	Do.
Lacquers, spraying, pyroxylin	†31236	Sydney, Australia	Agency.
Oils, essential	†31327	London, England	Do.
Oxides, mineral	*31268	Meissen, Germany	Purchase.
Oxide, zinc	†31267	Copenhagen, Denmark.	Both.
Potassium and natron	*31264	Coburg, Germany	Purchase.
Rosin	*31246	Valparaiso, Chile	Agency.
Aniline colors	*31357	Nossen, Germany	Do.
Beeswax, white and yellow	*31385	Sydney, Australia	Do.
Caustic soda	†31355	San Juan, Porto Rico	Do.
Chemical specialties	†31352	Bucharest, Rumania	Both.
Chemicals, industrial	*31461	Dresden, Germany	Purchase.
Chloride of magnesium	*31386	Siauliai, Lithuania	Do.
Colors and pigments	*31461	Dresden, Germany	Do.
Detergents for dairies	†31354	Melbourne, Australia	Agency.
Fertilizers	‡31457	Alexandria, Egypt	Do.
Formaldehyde	†31355	San Juan, Porto Rico	Do.
Fungicides and sprays for fruit trees and plants.	*31456	Durango, Mexico	Purchase.
Ochre	*31356	Liverpool, England	Either.
Paints and varnishes	†31352	Bucharest, Rumania	Both.
Perfumery	†31469	Amritsar, India	Purchase.
Pyroxylin lacquer	†31440	Syndey, Australia	Sole agency.
Pyroxylin sheets	†31394	Rio de Janeiro, Brazil.	Purchase.
Rosin	*31347	Tientsin, China	Agency.

Hard Wood Tar and the Future of Wood Distillation

By A. Karolyi
Manager, Wood Distillation Co., Ltd., Yugoslavia

IN view of the threatened position of the wood distillation industry, the principal products of which are now cheaply produced in various synthetic forms, L. F. Hawley in the January issue of CHEMICAL MARKETS, developed a program for the future, which, in its outline, is unerringly accurate and worthy of immediate practical application.

The by-product-hardwood tar, which up to the present day has been neglected and often employed only as fuel, is also destined to become one of the more important products, having, as it does, great possibilities which have never been exploited.

Hard wood tar is made up of some forty chemical compositions and it is natural to assume that among this number there must be some worthy of study and development. In view of this the industry in America will be undoubtedly interested in learning of work that has been done on the subject in this country.

To begin with, this development of hard wood tar is not an innovation in Europe but has been experimented with for several years past. The reasons for Europe's taking the lead in this development are two-fold: first because of its very proximity to synthetic competition and consequent earlier appreciation of its threat and secondly because potential synthetic competition would have a more damaging effect on European industry.

The American wood distillation industry represents a distinct group of manufacturers controlling production and in some cases the outlet of its production, so that their own plants are run on a planned schedule and protected in a large measure by the American tariff and trade policies. However, the "United States of Europe" are not yet in existence, so we are confined with our wood distillation factories, in small countries and are obliged to offer a large part of our production for sale in foreign countries, at the mercy of their prevaling customs tariffs.

Commending the accuracy of the article by L. F. Hawley in our January issue, the writer relates, with an unusual intimacy, the new developments now being carried on in the European hard wood distillation industry.

The factory of which I am manager is working up one hundred and seventy-five cords of beech wood daily. The average yield from one cord of this beech wood is 14 gallons of wood tar, which formerly was burned as a fuel in the factory. Since 1923 we have concentrated on working the wood tar; with the result that all the residuary tar and a part of the soluble tar have shown a combined yield of 75 pounds per cord. The first two phases of this manufacture are as follows:

15 pounds water with 10% acetic acid, methanol, etc.
5 pounds light oil, boiling range from 75 to 100 C
1 pound light oil, boiling range from 100 to 130 C
25 pounds heavy oil, boiling range from 130 to 280 C
17 pounds hard pitch, coke-like
12 water and gas

—
75

The diluted acid is mixed to the crude pyroligneous acid and then the further treatment of both is carried out. The light oils can be used as solvents for several purposes. The hard pitch is employed as fuel, so that the 25 pounds of heavy oils remain the principal problem.

The later are known to contain creosote—the most precious product of the wood distillation industry, quoted at a level of the equivalent of 40c per pound. From the above quantities of heavy oil about 7 pounds of pure creosote can be isolated; still there remain 15 pounds of heavy tanning oils, the disposition of which I shall refer to later.

The usual process by which pure creosote is made is troublesome and expensive, so that it can be sold only at high prices, and this, I believe, has been the cause of the limited sales volume. However, we have been successful in simplifying the production to a great extent. We isolate and then extract from the wood tar a chemical known as "tessol", containing the

necessary properties without the disagreeable and corrosive effects of wood tar, which would make its use impossible. Tessol is probably the safest remedy for curing eczemas of all types on animals and men. It cures neglected cases which have proven refractory to all other treatments in a surprisingly short period. This preparation is ideal for use in tropical climates, where dermatitis and eczemas are widespread. The quantities which can be obtained—0.4 pounds per cord—are comparatively low.

Itemizing the Costs

A survey of the costs entering into this exploitation of wood tar, reveals what appears to be a very tempting income. Appended are actual figures showing sales price, costs and profits as experienced at my plant:

2 gals. crude pyroligneous acid,	.02
6 pounds light oil,	.12
0.4 pounds "tessol",	.40
7 pounds pure creosote,	2.80
15 pounds heavy tanning oils,	.30
	$3.64
Manufacturing costs, including depreciation, etc.,	1.26
Net profit,	$2.38

Until recently it was not possible to realize such a plant in full running order. In the early stages our books showed losses and at presentour curtailed output gives only the trifling output of 22c. In this connection it is to be remembered that great obstacles beset every effort to introduce new preparations.

In spite of the present mediocre showing, we would not consider giving up this plant at the present time. The direct profit is low, but we are just considering a radical reduction in the price of creosote to a level which will induce a better interest in the market.

Tar Distillation Profit

Meanwhile, we have an important indirect profit resulting from the distillation of tar. During the course of the experiments outlined above, our Professor Suida has been successful in developing an economic process for the concentration of acetic acid. The heavy tar oils and several other phenol oils, boiling at a high degree, ester, etc., permit a perfect extraction of acetic acid from a mixture of water and acetic acid vapors. The water content of this triple vapor mixture is evaporated; acetic acid remaining in the tar oil remains in a concentrated state; subjected to the influence of a vacuum it can be evaporated and obtained again in a perfectly pure condition. This process is now covered by patents throughout the world and already two plants for its production are running smoothly in Yugoslavia and France, while three further plants will commence operations during this year.

Wood distillation operation seems to be completely inverted by this process. The troublesome production of acetate of lime is avoided—the latter always having been a process of embarrassment in this country. Continuing, the detarred and dealcoholized pyroligneous acid, showing a strength of 10 per cent., is transformed continuously into acetic acid having a strength of 95 per cent.—all by a single operation under one roof. Following two further treatments in the rectification plant, acetic acid 98-99 per cent. strength is obtained in a thoroughly pure condition. The finished product is essentially improved in comparison with the process manufacture by means of lime acetate; we have no more waste, or technical acetic acid and instead of the former expenses of $1.40 per cord for lime and sulfuric acid, only an insignificant consumption of tar oils of our own production—16c per cord—is required. At present we are about to reduce this latter consumption by one-half. The steam consumption process makes 1.5 pounds per 1 pound of pyroligneous acid having a strength of 10 per cent., which obviously is not more than by the lime process and the required labor and machinery is lower.

General Summary

Summing up, we now have a process yielding the finished product, concentrated acetic acid 95 per cent. and 98-99 per cent. by a simplified operation, at the same costs prevailing at present for the intermediate product, acetate of lime.

I have already pointed out that the increase in direct profit from acetic acid is primarily possible only by a larger output.

In my opinion the possibilities of the use of tar oil as a wood preserving product are very remote. The small amount of business available is too insignificant to permit of competition with the cheap tar oils. On the whole the further development of that program is greatly influenced by the special wants of each country.

We are in the early stages of work on the isolation of high grade phenols from tar oils in view of the fact that in Yugoslavia we do not have coal and consequently are now obliged to import such products. We already have been successful in the production of pyro catechine and pyrogallic acid—both photographic developers—on a large enough scale to permit of their commercial exploitation.

I will give particulars concerning these latter operations in a further article to be submitted on the completion of present developments and experiments. The data outlined above will undoubtedly contain some information of interest to the American wood distillation industry.

The New Situation on Chilean Nitrate of Soda

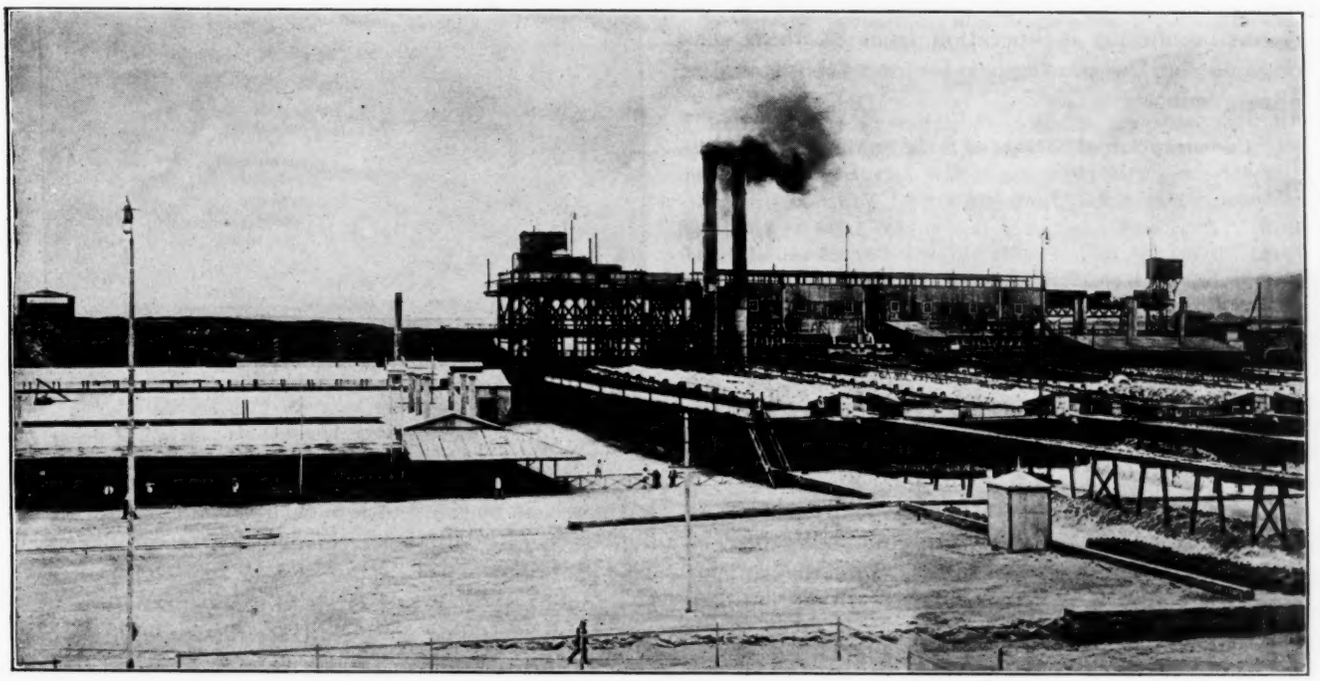
By R. Harrison
of Santiago, Chile

THAT the transformation of the Chilean nitrate of soda situation from one of extreme depression to that of an almost unprecedented prosperity in a few short months, is the result of a material price reduction is common knowledge in trade circles, but the factors leading up to that reduction are numerous and not so widely known.

The unchallenged position formerly held by the Chilean fertilizer had been gradually weakened in the years immediately preceding 1927, but in that year competition from synthetic and other sources took such a large portion of the world demand that the natural nitrate industry was reduced to immediate crisis and faced by a nebulous future. Sales for 1926-27 had declined to 1,156,642 tons, production to 1,317,552 tons and plants in operation to 33.

Inasmuch as price was the dominant, if not the only, cause of this change in the current of demand, an adjustment of Chilean prices was the logical remedy. The Chilean Association of Nitrate Producers constituted an obstruction to the immediate adoption of that corrective, but those producers owning high-grade ore or having low production costs were strong advocates of a free-sales policy for the ensuing nitrate year. There were many indications that associated sales would be supplanted by independent individual sales sooner or later, but it was the intervention of the Government, whose revenue from the export duty on nitrate had dropped to a dangerously low level, that accelerated action in that direction. The heads of the Nation gave it out early in 1927 that collective nitrate sales would not be tolerated in future, and on April 14, 1927 the Chilean Nitrate Producers' Association resolved to adopt the free-sales method of deliveries after June 16, 1927.

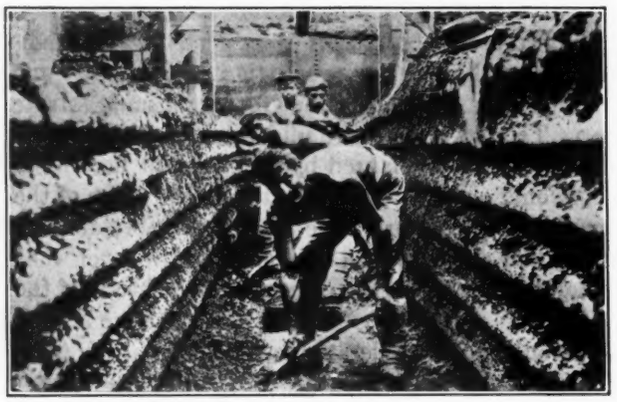
For several years the Association had negotiated intermittently with the Government for a diminution of the tax of $1.22 U. S. currency per metric quintal on its exports, but its best efforts proved futile. It is highly probable that the resolution of April 14 was accompanied by a persuasion that the Government would now cede the export tax reduction by way of



This view gives some idea of the size of a typical Maquina or refining plant on the Chilean nitrate pampas.

reciprocation. However, no such concession has been granted, despite renewed and intensified pleas from the industry.

That the Government's objective had been attained was proved promptly. The average price as determined by the Nitrate Producers' Association for 1926-27 had been 19/3 per quintal, but new quotations for deliveries in June 1927 or later (that is, after "free-sales" became effective) opened at 15/9- per quintal and ranged to 18/- per quintal. The average price for the 1927-28 selling season was 17 shillings. Only a short time was required for these



Cleaning up evaporation pits after nitrate has passed through one stage of refining.

revised prices to stimulate the demand for Chilean nitrate of soda and bookings have continued to swell until the record of 2,912,968 tons for the War year of 1917-18 will probably be reached before the present season closes. In contrast, the turnover for 1926-27 was 1,156,642 tons.

Meanwhile, production has been raised from 1,317,552 tons to 2,800,000 tons (estimated), and the increase in oficinas in operation from 33 to 63 has originated an incessant appeal for more labor from the nitrate industry.

Consumption of Nitrate of Soda in Metric Tons

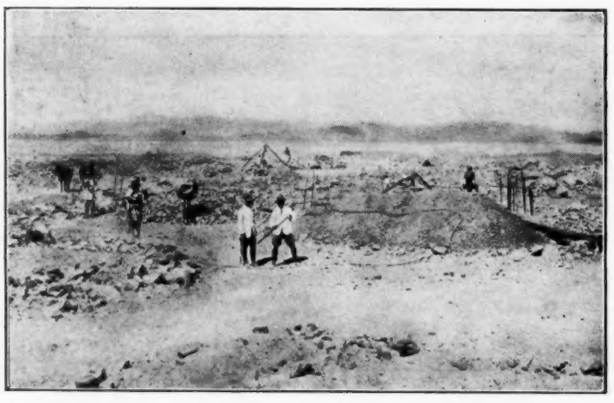
	U. S.	*Total of all Countries*
1918	1,674,000	2,744,315
1919	369,600	1,101,423
1920	1,266,800	2,393,386
1921	266,000	1,116,536
1922	750,000	1,911,371
1923	947,000	2,224,733
1924	1,031,500	2,330,002
1925	1,117,600	2,475,432
1926	722,400	1,901,952
1927	784,860	1,911,604

This spectacular recuperation is not a flash in the pan, produced by some impermanent debility of competition, but is the crystallization of a determined effort by Chile to successfully market her product against her rivals. It constitutes proof, so it is claimed, that nitrate of soda meets the consumers' requisites and is preferred by them, provided it is available at present or better quotations. Not only can current prices be maintained, but with the unabating research now directed to the cheapening of production, even more favorable prices may be anticipated. Consequently, unless the unforseen occurs, there are strong grounds for a prolongation of current prosperity in the Chilean industry and official sales estimates for 1928-29 indicate a further healthy increase. The completion of improvements at the Guggenheim property, Oficina "Maria Elena", enabling it to augment out-turn from 200,000 to 500,000 tons per annum, is an outstanding evidence of confidence in the future of nitrate of soda.

Now, the participation of the Chilean Government in bringing about the new order of things has not been confined to the liberating of producers from associated selling or price-fixing, but has also taken the form of practical and direct assistance.

A Nitrate Loan Bank—with a capital partly subscribed by the Government from nitrate export taxes—has been instituted for facilitating funds to producers against nitrate-bearing lands and nitrate. The President of the southern Republic now has discretionary power to accept 90 day drafts in settlement of export duties when shipments are bound for a new or difficult market, whereas heretofore immediate payment has been demanded regardless of destination. The State has likewise been empowered to modify internal freight rates, or cause them to be modified, should such action be necessary in order to place the Chilean fertilizer on a competitive footing in foreign lands.

In order to acquire nitrate lands in the past, producers have had to disburse the value of those lands as bid by them at public auction. Such a system has, of necessity, involved large capital outlays and



One method employed by workmen in gathering caliche in the nitrate of soda beds.

frequently impeded extended or improved production, but a recent measure of far-reaching possibilities will tend to greatly diminish this burden on producers. The President of the Republic now holds authorization to rent State nitrate lands to producers on a joint or royalty basis, and public bids for the exploitation of several properties have already been requested. This innovation of vital importance to many manufacturers has made a tremendous appeal to the industry as a

whole, and more than one is negotiating with the authorities in an endeavor to secure rights over neighbouring lands on a royalty basis. In short, the voluminous funds customarily absorbed by the acquisition of lands will in future be dedicated to development and production.

Producers' costs have been somewhat alleviated by the removal of import duties on nitrate sacks, all of which are of foreign origin.

When designing means of stimulating this all-important industry, the Chilean Government did not overlook advertising, for which purpose an adequate annual allotment has been made without any of its weight devolving upon producers.

The Flexible Export Tax

A further powerful weapon at the command of the President of the Republic is his newly-conferred ability to lower the rate of export duty provided the estimated combined return from taxes on nitrate and iodine is not less than 170,000,000 pesos per annum. Such relief to the industry could not have been countenanced a few years ago when this impost accounted for approximately one half of Chile's revenue, but the increasing income from new sources of taxation now make it possible. The power contained within this recent attribution may signify life or death to many "oficinas".

Many of the 151 plants now constituting the Chilean Nitrate Producers' Association operate with low-grade material, and they have been the staunchest supporters of the combined-selling policy. In view of the current heavy demand for nitrate of soda, the fact that only 63 establishments out of a potential 151 are producing is conducive to the belief that the remaining 88 cannot make a profit at current quotations. A reduction of one shilling per quintal in export tax would place many of these in the competing class, thus explaining the salient importance attached by producers to the presidential privilege referred to.

The persistent rumor that a late shipment of nitrate to Germany had benefited by reduced duties was emphatically denied by the Government in a general statement that no shipment had ever enjoyed such a privilege and that it had no intention of making any tax reduction. Nevertheless, despite a further categoric declaration just made to the effect that no tax diminution will be put into effect in the nitrate year 1928-29, there is a large element that expects to see some reduction become effective July 1, 1928.

Polish production of sulfuric acid as a by-product of zinc smelting reached 227,000 metric tons in 1927 as compared with 175,000 tons in 1926, according to Assistant Trade Commissioner Gilbert Redfern, Warsaw. Exports of sulfuric acid from Poland during 1927 amounted to 28,034 tons, which compares with 23,581 tons exported in 1926, Germany being the principal importing country. The export of sulfuric acid from Poland is now centralized through the Zjednoczenie Sprzedazy Kwasu Siarkowego of Katowice (Upper Silesia). The largest consumers of sulfuric acid in Poland are the manufacturers of superphosphate fertilizers.

New Incorporations

Rockwood Gypsum Lumber Corp., New York. Corporation Trust Co., Wilmington, 1,000,000, 500,000, 160,000 shs.

Glaser Paint Products Co., New York. R. H. Rosenthal, 1819 Broadway, 200 shs common.

Chemicals, Inc., Jersey City. Corporation Trust Co., Jersey City, 20,000 shs common.

Colgate & Co., Export, Inc., Jersey City. Filed by company, 25,000 shs common.

American Investors, Inc., New York. Delaware Registration Co., Wilmington, 800,000 shs no par.

American Copper Co., New York. U. S. Corporation Co., Dover, $2,000,000, 100,000 shs no par.

Flinco Cleansing Co., New York, chemists, druggists, dry-salters. Orem T. Wharton, Dover $10,000.

Seneca Solvents & Chemical Corp., New York. L. Landes, 165 Broadway, 200 shs common.

Wilcox-King Fertilizers, Inc., Bound Brook, N. J. Clarence E. Case, Somerville, $200,000 pf. 4,000 shs common.

Acqua Magica Corp., Brooklyn, chemical products. S. R. Suriani 84 Underhill Ave., $50,000.

Guaranteed Floors Co., Hackensack, N. J., flooring materials. J. H. White, Hackensack, $100,000.

Harlem Laboratories, New York, analyze chemicals. L. Perkins 108 East 125th, $20,000.

Colorex Chemical Co., San Francisco, cleaning fluids. Corporation Trust Co. of Del., Wilmington, 200,000 shs common.

Pacific Coast Pulp & Paper Corp., Wilmington, pulp, paper, allied products. Corporation Service Co., Wilmington, $500,000, 10,000 shs no par.

Irving Carl Laboratories, Inc., Dover, drugs, chemicals. U. S. Corp. Co., Dover, $30,000.

Tidewater Rolling Mills, iron, steel, manganese, coke, copper. U. S. Corp., Co., Dover, $1,000,000.

A. C. Israel & Co., New York, sugar beets, sugar cane, molasses. Prentice, Hall, Inc., Dover, $1,000,000.

United Molasses Co. of America, Wilmington, molasses, sugar. Corp. Trust Co. of America, Wilmington. 2,000 shs common.

Snow-White Laundry Service, Niagara Falls. Lee, Wand & Gilrie, Lockport, $10,000.

Lindenhurst Laundry Co., Lindenhurst, L. I. A. G. Blue, Patchogue, $10,000.

Aoswaite Steward Corp., Philadelphia, asbestos, minerals and mineral salts. $25,000, 1,000 shs no par.

Corona Chemical Co., Wilmington, Del., fertilizers. $25,000.

Scientific Coating Co., Wilmington, Del., paints, enamels. 30,000 shs no par.

Madawaska Corporation, Ltd., Quebec City, Quebec, pulp and paper. C. G. Power, Antoine Lemiuex and Joseph Power, $2,600,000.

Western Canada Woolen Mill, Ltd., Edmonton, Alta., John MacDonald, William V. Willkin and Andrew White, $250,000 and 5,000 shs no par value.

Dominion Salt Co., Ltd., Sarina, Ontario, chemicals. Robert Gowans, Chas. D. Magee and Ernest H. Stewart $1,000,000, 4,000 shs no par value.

St. Lawrence Paper Mills, Montreal, Quebec $19,000,000 and 1,000,000 shs no par value.

Pomet Rubber Company, Ltd., Toronto, Ont., John T. Metcalf, Sidney J. Pomeroy and Wm. A. Toogood, $50,000.

British Knitwear, Ltd., Simcoe, Ont., Claude W. Pond, Amos L. Pond and Merrell H. Hare, $50,000.

Cosmic Color Co., Wilmington, Del., colors, chemicals. $50,000.

Essem Laboratories, Inc., Delaware, chemical research. $100,000, 3,000 shs no par value

Bond Torpedo Co., Sapulpa, Okla., nitro-glycerin, dynamite and blasting powder. $25,000.

What We Might Expect of

Science In Business

if it Were Given a Chance

By Edward E. Free, Ph. D.

THE real foundation of the business world is neither labor nor capital nor that elusive individual the ultimate consumer. It is science.

Science earns for us in the United States more than thirty billion dollars a year, nearly half of our national income. It has doubled the productivity of agriculture and more than quadrupled that of mining. It has created the entire automobile industry in less than forty years out of a gas engine, an old buggy and a dream. Surely the business men of America ought to be convinced by now that it is worth while to exhaust every one of science's industrial resources.

Yet there remains the surprising fact that these resources are not only unexhausted but that only a small fraction of them have been put to work at all. Not a tenth of the facts that scientists know are being used. The rest of them lie idle in the heads of professors or in the unread pages of scientific books. The business men and industrialists who ought to know and use these facts (for the benefit, of course, of all of us as well as of themselves) do not even know that the facts exist.

Business men believe that scientists are hopelessly impractical, which, alas, is too often true. The scientists retaliate by thinking that all a business man ever cares about is money, and this, too, dare not be too sweepingly denied. So most of the scientists resent any contact which what they believe to be the sordidness of business while the business men stay away just as determinedly from the laboratories, assuring themselves, as an opiate for their better judgment, that after all there is nothing of real and practical value to be found inside that mythical hedge of whiskers behind which (they imagine) all professors are concealed.

Nothing, of course, could be farther from the truth. Science is concerned, in the last analysis, only with proved facts. It is, therefore, the most practical of all possible subjects. There are as many sensible and matter of fact brains inside professorial heads as elsewhere, for all that the owners of these heads pursue on occasion, other items of human enjoyment than those that are measurable in dollars. Let us consider, for example, some exceedingly practical things that one scientist did for the railroad business.

Some years ago a gentleman named Dudley became the chief chemist of one of the large American railways. He was a pioneer in the application of science to business. He devised methods for testing coal and coke and lubricating oils and saved millions of dollars for his road. He helped the steel people find out how to make more lasting rails. He invented cheaper and better paints. He studied the water supplies available for engines at different places along the line and saved millions of boiler tubes from being burnt out or corroded. I could fill this article with a list of his achievements.

It is estimated that the scientific improvements devised by Dr. Dudley and by his successors in the chemical services of other railways have saved more money than the sum of all the railroad wages ever paid in the United States. It is hard to see, in fact, how our modern railways sytems could have grown up at all or could continue to exist if it were not for the thousands of scientific methods and devices that are traceable, in their beginnings, to this simple and not unusual gentleman who was neither a great chemist nor a great business man but who knew how to talk the language of both groups, how to put to work in the industry which employed him the facts that scientists are discovering all the time in their laboratories.

The proverbial distinction between birds in the bush and birds in the hand is as true in science as elsewhere. One fact in the hand, working daily in the shops for Dr. Dudley and his railroad was worth more to him and to the world than half a hundred untamed facts twittering about in the university laboratories. The saying that knowledge is power is not quite true. *Used* knowledge is power; and more than power. It is money and service and better living for our fellow

men and a hundred other good things. But mere knowledge, knowledge left unused, has no power in it. If it had, the first man to memorize the encyclopedia would be the emperor of the world.

Another man who has done this with exceptional distinction is Dr. Willis R. Whitney, that modest and unassuming genius who heads the great electrical research laboratories at Schenectady. Dr. Whitney was originally a recruit to business science from the research laboratories of a great university. His wide knowledge of science and his life-long enthusiasm for persuading facts to go to work in industry have been responsible, more than any other single thing, for the achievements of the institution that he directs, achievements which include, as everyone knows, the modern electric lamp, the controllable X-ray apparatus, the high-vacuum tube for radio and hundred of others.

Many of the achievements in such careers as those of Dr. Dudley and Dr. Whitney required, of course, long and laborious investigations. But not all the successes of science are so hardly earned. Sometimes a scientific problem solves itself as if by magic, by the application, perhaps, of some single fact well known to scientists but not known to the particular executive or business man who happened just then to need it.

von Liebig and Potash

The origin of the potash industry is an example. The salt miners of Germany a generation ago were bothered greatly by some bitter, evil-tasting stuff that they found mixed up with the good salt they were trying to mine. This bitter stuff had to be taken out in order to get at the good salt but it was even worse than useless because if they piled it up anywhere the rain always washed some of it down into the rivers where it spoiled the water for drinking and poisoned all the fish. It was more of a nusiance than an ant hill at a picnic.

Then a great chemist, Dr. Justus von Liebig, happened to hear about this worthless stuff. He found out that there was potash in it. He knew that crop plants need potash, that it could be used as a fertilizer. He suggested this to the farmers of Germany. Now the potash industry is one of the greatest in the world. The useless, bitter stuff became the chief asset of the mines.

It is a significant part of this story that Liebig's service to the potash business did not involve the discovery of any new facts. It was already known to him (and to many other scientists) that potash was beneficial to crops. It was already known to the owners of the salt mines that the bitter stuff they were throwing away had potash in it. All that Liebig did was to bring these two facts together. He introduced them, propinquity did the rest and millions of dollars were born of the ensuing union.

Let us take an instance now from the United States. A professor in the University of California—his name is F. G. Cottrell and he is now high in the scientific service of the Federal Government—got to thinking about the tons of sulfuric acid and arsenic and other valuable materials that used to be blown out of the smokestacks of the copper smelters and sprinkled over the neighboring country, where, like the potash in the German salt, they were worse than useless because they sometimes caused damage to the crops and to animals on the farms. These materials were carried out with the smoke as fine particles of dust or tiny droplets of liquid acid.

Professor Cottrell's Development

Professor Cottrell knew, as did every other sceintist, that powerful charges of electricity will attract such tiny particles just as a magnet picks up small pieces of iron. So he built an electric apparatus which does this on a large scale. It takes all the dust particles and all the little acid droplets out of the smelter smoke. It is in use now at hundreds of places all over the world. Damage to the farms has stopped. The sulfuric acid that used to be wasted is being saved for the making of fertilizers, for oil refining and for the chemical industries generally. The arsenic is saved too, and this supply of it is now the chief reliance of the Government scientists who are using calcium arsenate to fight the boll-weevil and try to save the cotton crops of the South. The Cottrell apparatus is even in use at mints and assay offices to save the little particles of precious gold dust that get carried up chimneys with the smoke.

The irrigation ditches in a Western farming district, as well as the reservoir which supplied a nearby town with drinking water, were choked up one summer by a great mass of water weed, a new kind of weed which had been introduced somehow from another part of the West. The weed grew so rapidly that ditch cleaning was an almost daily task. It got into the intake where the pipe lines left the reservoir and a man had to be employed night and day to keep this intake clear. At this stage of the trouble it occurred to someone to report the situation to the Professor of Botany in the State University. The professor looked at a sprig of the weed and told his inquirer to suspend in the water of the ditches affected some little canvas bags containing a few crystals of copper sulfate. This was done. The weed died and disappeared within a week. How did the Professor know that this would happen ? Because he knew a scientific fact, the fact that copper was especially poisonous to that kind of weed. A slight trace of copper in the water, far too little of it to be poisonous to man or even to be perceptible by taste, killed off the troublesome weed at once.

When cement sidewalks were first introduced into the hot, dry regions of Arizona and New Mexico they were a disappointment. After the first few weeks the cement would crack and crumble into dust. A scientist decided that this was due to too quick drying because of the prevailing heat and dryness of the air. He tried covering the newly laid cement with wet

dirt for a few days so that it would not dry out so quickly. The expedient worked. Cement is now laid in hot countries as successfully as anywhere else.

The causes of the dust explosions which happen every little while in flour mills, grains elevators, spice grinders and similar places are prefectly well known. It is possible to build mills and elevators that will not explode. Yet explosions continue to occur. The facts are not used.

Plumbers hunting for a certain pipe among the concealed piping in the walls of a house are accustomed, if they have no accurate blueprints of the pipe locations, to cut holes into the walls until they find what they are after. This is totally unnecessary. A simple electro-magnetic instrument will locate the exact position of piping instantly without making even a pin hole in the wall paper. Another instrument, this time a simple sound magnifire, is used occasionally to hear the tiny sounds made by water running through the pipes and thus to trace down the location of defective faucets or other small leaks in the pipe system.

Other Obvious Instances

It is a matter of common knowledge that the temperature and humidity of the air affect both the comfort and the working capacity of all human beings. A hot summer day, for instance, may lower the work output of your office more then fifty per cent. Professor Huntington of Yale has been experimenting for years with the efficiency of office and factory workers under different conditions of heat, cold, dryness, humidity, etc. He has discovered just how these differences in air condition, outdoors or indoors, affect our working capacity. The conditions that are best for work and for comfort are now sufficiently known. There exist, also, simple and efficient mechanical devices for the cooling of buildings in summer and for the supply of air containing just the right amount of moisture.

All this information is awaiting use. It is possible to construct any time, an office building or a factory within which the atmospheric conditions will be the best possible ones for human efficiency. The operating expense would be, in general, less than the expense of heating the same building in winter and the saving in human energy would be many times any possible cost. There are proved facts, easily demonstratable to anyone who will take the trouble to investigate them. No one thinks, nowadays, of building an office building that is unheated in winter. Before long we will think it just as foolish to build one that is not cooled artificially in summer and provided all the year round with air that is neither too dry nor too moist.

Then there is the matter of continual noise in offices, a prevailing enemy of that mental concentration that is essential to good work, and one that can be prevented to a large degree by a noise-absorbing ceiling invented as the result of scientific investigations by Professor Sabine of Harvard.

Even more seriously detrimental to office efficiency is the matter of bad light. Probably no single business waste bulks so large as this. In unnecessary mistakes, in lost time and lowered physical energy and decreased enthusiasm of office people, bad lighting costs the businesses of America a staggering sum each year. I have known the clerical expenses of an office to be cut in half by the simple expedient of providing proper lighting for the typists' desks. Proper lighting does not mean merely plenty of light. You can have too much light as well as too little. Perhaps the light comes from the wrong direction or it changes its direction too much during the day, or it makes annoying shadows or reflections or shimmers across the work. These seem like small things. The toll they take from a worker's energy is gradual and unnoticed. But through such tiny wastes as these, like the unnoticed drops of gasoline out of a pinhole in your tank, the power of many a business has slowly leaked away.

The most important machines that you use in your business are your human machines, the bodies of your employees. I do not mean that you must treat your employees as though they were machines and nothing else. Every experienced executive knows the folly of that. But I do mean that you must take into account the bodily characteristics of your workers—and of yourself. The human body is not foolproof. Somethings it can do, others it cannot. The modern executive ought to be familiar with what science is fast discovering about how to manage this wonderful bodily engine of ours, about how to keep it in good working order and how to prevent serious friction inside it, like, for example, the frictions due to bad light or to extreme noise or to overheating of the air. No factory superintendent neglects the care and upkeep and lubrication of the non-living machines that are in his charge. Does not the human machinery of your business deserve at least as much attention ?

Science In Advertising

In general trade perhaps the most immediate field of usefulness for science is in advertising. It is a powerful and neglected lever on the attention of the reader. Nearly every business has some scientific aspect and some of the facts about this, properly selected and dressed up for the public taste, have considerable interest. For instance, the fact that one of the chemical elements entering into the composition of your brand of tooth powder has been discovered recently to be slightly radioactive may not sell much toothpowder directly but it will interest many readers and will give you a chance to bring the name and quality of your product momentarily to their attention. This instance is, as it happens, an actual one. One of the elements in a much advertised brand of tooth powder has been discovered recently to be radioactive. This may be, in fact, one cause of certain stimulating bodily effects of this element. There

is some good advertising copy in this but the manufacturers of this particular tooth powder have not awakened to its possibilities. At least their advertising has made no mention of it.

If you are an advertiser of woolen goods the public would be interested, don't you think, in reading just why it is that wool fiber makes warmer clothing pound for pound than cotton does. If you sell fur perhaps the public would like to know the curious scientific reasons why fur is waterproof or how it is that animals developed fur in the course of evolution out of fish scales while birds at the same time developed feathers out of the same original material.

Stimulates Public Interest

These, I admit, are not sales facts. But they are interest facts. It is generally agreed that the greatest waste in present day advertising is not the advertisement which is unconvincing when read, but the one which does not get read at all. Here is where science can help.

Several large industrial corporations have discovered this. Scientific facts, the basic facts of their processes and products, are becoming the foundation of their advertising copy. At least two national advertising agencies now have scientists on their staffs. Others are employing scientific consultants. It is being appreciated, also, that men of engineering training are likely to make the best salesmen, that they are especially successful in what is often the hardest part of the job, namely in getting the attention of the prospective customer.

In national advertising, the recent spectacular campaign to increase the domestic consumption of compressed yeast was based entirely on the scientific facts about vitamines, facts discovered by a research scientist, Dr. Casimir Funk, and known to scientific men for years before they were put to use commercially. How many similar facts are hidden away, do you suppose, in the basic science that underlies your own business ? Enough, I will wager, to richly repay an effort to dig them out.

Finance and Science

But the one business which needs science most desparately and neglects it, alas, most completely is that part of the banking business which has to do with investment and with the financing of new enterprises. Every business expansion, every prospective investment must rest if it is to be solid upon three legs: finance, law and facts. Finance includes, of course, knowing how to use your money as well as having enough of it. Law includes all the intricate and vital relations of the business to the public and to public officers as well as to the statutes. And the third leg, the facts, is merely another name for science.

These three legs of business ought to be equally strong. No one thinks of starting a new enterprise nowadays without good financial advice and good legal advice. No bank makes an important loan without both of these. One sees to it that these two legs are strong enough.

But the strength of the third leg is commonly neglected. Scientific advice is seldom procured, seldom thought of as being useful. Yet your lawyer can defend you only against man-made laws which are not, after all, so very permanent or inelastic. A scientist, on the other hand, is your defence against laws infinitely more implacable and more dangerous to break, against those rigid conditions of life and of everything that we call the Laws of Nature. If your business breaks these laws the penalty, usually, is its death.

The chief cause of business failures is set down in most of the lists of bankruptcies as "insufficient capital." I wonder. Many times, I think, this cloaks an insufficiency of science. Some vital technical fact was overlooked or unforeseen. This caused, when it did come to light, such unexpected expenses or such long delays in the realization of profits that the capital originally believed to be sufficient turned out to be too small. Experienced financiers always make an ample allowance for "contingencies." Why not try to foresee the contingencies ?

You do not expect fifty cents to do the work of a dollar any more than you expect a boy to hold down the job of a man. Why then should you expect that a guess will fill successfully the place in your plans that ought to be occupied by a fact ?

Scientists as Fact Finders

Scientists are fact finders. That is what they are trained to do. The beginning of any new enterprise or the making of any far reaching business decision should be preceded by scientific consultation just as such events are preceded now by legal and financial consultation. A few banks are beginning to know this. Some of the larger metropolitan institutions have organized scientific departments and retained consulting engineers. A few corporations are wise enough to spend a quarter or a tenth as much on scientific advice as they spend, on legal advice. Of course they ought to spend twice or three times their legal budget, but even a little helps. The pity is that so many spend nothing. Millions for defence, they seem to say, but not one cent for keeping out of trouble before it happens.

But can they really spend it to advantage ? Reliable scientific advice for business men is far easier, I must admit, to recommend than to provide. No one man can be all kinds of an engineer nor can one scientist be expert in everything. The labels "scientist" or "engineer" cannot be taken as infallible evidence or competence any more than every man whose sign says "lawyer" is a man you want next to you in court. How is the business man to know, then, what kind of a scientific expert to hire, where to get him, how to judge whether he is well-informed and honest, how to understand and apply what he says ?

These are serious practical questions even for the large and well established business with plenty of money at its disposal. They are still more serious for the small business man. Not every business can afford to hire expensive consultants or establish great laboratories for research. Are such small businesses, which constitute, we must remember, most of the business world of America, to be denied altogether the benefits which science is able to produce ?

Not at all. There is a simple answer to all these questions. Business men must learn something about science.

Don't let this frighten you. There has been a lot of unnecessary mystery about science, just as there was a hundred years or so ago about law and finance. Most business executives already know something about law. They know enough, at least, to recognize the need of legal advice when it arises. And they know enough to decide after talking once or twice with an attorney whether he is probably a man who can be depended upon for legal knowledge and sound sense or whether he is more likely to deliver only the sound.

Science Simpler Than Law

Any intelligent man can soon learn this much about science. The main facts of science are much simpler, really, than the principles of law and much more certain than what are called the principles of finance. Some scientific books are written, we must admit, in a pretentious, over-technical language that is unfamiliar and annoying to the layman. Others are too advanced and require much previous study for their comprehension.

It matters little where you start. You can begin with chemistry or psychology or geography or with the thermodynamics of the steam engine if that happens to be the thing that interests you. Whatever you begin with, the horizon of your scientific interests will widen as you advance until, before you know it, it includes the whole of science. Any door opens onto the whole wide world. "The smallest fact," said Huxley, "is a window through which the infinite may be seen."

You can absorb much business science, too, from daily contacts as well as from reading, in the same way, probably, as you have learned what you know about law. You will see occasionally a scientific item in the newspaper or an article in a magazine. You will drop into the habit of talking over scientific problems with other business men as you now discuss new laws or the future of the market. And you will be considering all the time how the facts you are learning can be applied to your business.

Value of chemicals, dyes and colors imported into Great Britain and Northern Ireland during April, 1928, was £1,443,373, compared with £1,374,274 in April 1927, and £1,334,777 in April, 1926. Exports of these products showed an appreciable increase, amounting to £1,955,092 for April 1927, as compared with £1,839,025 for the corresponding month of last year.

Our Chemical Exports are World Wide

Only two countries in the world—Greenland and Tripoli did not purchase American chemicals and allied products last year, according to A. H. Swift, Chemical Division, Department of Commerce. Shipments to some countries were small, but nearly every country took at least $1,000 worth during the year; 66 countries purchased $100,000 worth or more; and 27 countries bought more than $1,000,000 worth, increasing up to $28,200,000 by the United Kingdom. The full text of the Department's statement made public May 24 follows:

Europe continued to be the best market for American chemicals and the most significant changes in the exports from the preceding year were made in this region. In 1927, Europe purchased. $15,000,000 more than in 1926, and accounted for 40 per cent. of the total exports of $184,133,000 (not including soaps).

France and Germany each increased their purchases 50 per cent. and exceeded all previous records; exports to Germany surged forward $6,000,000 with aggregate sales reaching $18, 900,000. France likewise bought more than $8,500,000. Canada, with 14½ per cent. of the total, bought $1,200,000 more in 1927 than in 1926 and reached a total figure only a little behind Great Britain. As in previous years, Great Britain continued to be the largest single purchaser with $28,200,000 or 15 per cent. of all exports shipped abroad.

Other important changes in the European trade occurred in the remarkable gains in sales to the Netherlands, which reached $6,800,000, and to Italy, which reached $2,300,000 likewise, peak figures. The only countries of this region buying less were Denmark, Irish, Free State Poland and Danzig and Portugal.

Less outstanding changes were made in American chemical exports to the neighboring countries of Mexico, Central American, and the West Indies. Slight decreases were evident in shipments to Cuba and Mexico while sales to the other countries on the whole advanced. These countries, it will be recalled are steady customers and buy all products in relatively small amounts, making the aggregate sales well worth cultivation. Owing to a decrease in price for some of the largest purchases, it is believed, total sales to South American countries fell slightly and equalled $20,932,000. For the most part the rises and falls were too slight to warrant discussion here.

In the Far East, which region is the third best market for American chemicals, accounting for one fifth of the total, the smaller amounts of fertilizers shipped to Japan and the Netherlands East Indies is largely responsible for the five per cent. decline to $37,500,000. Japan with an aggregate trade of $10, 200,000 is the third best customer, buying appreciable amounts of practically all chemical commodities. The Netherlands East Indies are also important customers, as well as Australia, New Zealand, China and Hongkong and British India.

Direct shipments to Africa showed a gain of 31 per cent. to $3,500,000. This trade, although small in total, represents steady progress throughout the years. British Africa continued to be the largest customer while appreciable advances were made in shipments to Egypt, Algeria and Tunisia.

Plans for the erection of a large chemical plant at Abercrombie, a few miles from New Glasgow, Nova Scotia, are under way, reports Consul Erik W. Magnuson, Halifax. Financial interests in Ottawa and New Glasgow have the project in hand, and options have been secured on lands said to contain large deposits of silicate of alumina, which under proper treatment will yield hydrochloric acid, soda ash and aluminum oxide. The process to be exploited known as the Keough process requires large quantities of coal and common salt. The local coal trade and the Malagash salt mines, it is expected, will be greatly benefited by the erection of such a plant. The plant will employ about 48 men when operations are started, and will handle about ten tons per eight hours. When the project is finally completed, it is expected to employ 2,000 men with an output of 500 tons daily.

Some Dealer Opinions on Less-Carlot Distribution

THAT the subject of Mr. George S. Robins article entitled "Are We Not Neglecting Less-Carlot Distribution" is of prime interest to many of his fellow distributors is attested to by the number of favorable and critical comments received, a few of the more interesting of which we submit below:

Discontinued Jobbing Lines

R. W. Lesser, Secretary-Treasurer
North Hudson Chemical Co., Inc.

With reference to the question of less-than-carload distribution, I can only say that we have discontinued most of our jobbing lines, owing to the fact that we do not find them profitable. This is more or less occasioned by the high cost of in and out handling and deliveries.

However, in spite of this there is severe competition for every order ito be placed, and even on the standard lines price-cutting to the bone is a factor in obtaining the order. As far as the writer knows, this competition obtains in most of the various jobbing centers, and there is no profit accruing to the dealer commensurate with the service and convenience afforded the purchaser.

To the writer's way of thinking, one solution of the problem would be for the manufacturers to public warehouse their stocks wherever there is sufficient demand, and to this extent, at least, eliminate what is now an economic waste, by which I refer specifically to the time, labor and capital invested by the average chemical jobber.

Without Profit

S. L. Abbott, Jr.
Mailliard & Schmiedell, San Francisco

The writer read the article appearing in your May issue by Mr. Geo. S. Robins with a great deal of interest.

We do not know how conditions are in the East on less-carload lots of chemicals for delivery ex-seller's warehouse, but have the impression that conditions are not so bad there as they are out in California, especially in San Francisco.

We know from actual experience that it costs ¼c per pound for solids and two cents per gallon for liquids to handle materials from incoming dock to warehouse, these charges only including cartage, labor in and out and one month's storage.

In addition to these, office overhead expense certainly adds another ¼c per pound or two cents per gallon to the actual cost of the merchandise.

At one time the convenience and service that could be rendered by a distributor or manufacturer's Agent in taking care of their customer's requirements from spot stocks, was appreciated and a small profit over and above the cost of operation was realized. Now, however, it is necessary to sell goods ex-warehouse without profit—in fact, in many instances, at a loss.

For the Pacific Coast territory, which is served almost entirely by water, a partial solution may be effected by raising the miniumm carload quantities, and making a greater differential between carloads and less than carload lots.

It is rather ridiculous to have the rail car from point of origin to seaboard consist of 25 tons and than have the steamship car only 24,000 pounds, which at the present time can be divided into almost any quantity for four or five ports on the coast, all at the carload rate. This difference in the rail and water car should be eliminated.

However, we are not discouraged, for we feel that conditions will change and that the customers of any distributor will appreciate the service that they are securing and will be willing to pay a reasonable profit for this prompt service.

Another unfortunate point we believe, which demoralizes prices to a great extent, is the policy amongst competitors who are keenly watching the other man's business, when they find a commodity is being sold about which they know little or nothing, to secure a price and add on what may seem to them a reasonable profit but which is way below the selling price. We do not believe this to be intentional, but merely ignorance as to what margin of profit the commodity should show.

Carlot Buyers Eliminated

C. F. Hacke
Henry C. Hacke, San Francisco

This is one of the most concise articles which I have had the pleasure of studying, as conditions enumerated therein, apply in all respects to the heavy alkali and chemical industry on the Pacific Coast at the present time. It is one continual round of hammering down prices, and in the event of solicitation being unsuccessful, it has been the means of lower prices being

extorted from the manufacturers. So, irrespective of outcome, the consumer has been the only party benefitted by this schedule. As a result, this has been the means of eliminating the carload buyer in a good portion of the business, as, at the present time, he is buying at carload prices and in quantities to suit his convenience, not losing sight of the fact that prompt delivery and service must be rendered as a matter of course.

The various elements entering into the sales as enumerated in the article would no doubt give food for thought to any handler of chemicals, should they ever be brought to his attention. It simply dwindles down again to the old basis where drayage is charged for on one item figuring that this will bear the brunt of the cost through commodities included in the same delivery, at shaded figures to appear more attractive in f. o. b. cost.

I have no comments to offer on this article, as Mr. Robins is well versed in all details, which he has covered most thoroughly, and I know that this should do much to standardize reselling, if only brought to the attention of the principals handling chemicals in this country.

The Cash Discount Evil

M. V. Carley
Iowa Soda Product Company

Mr. Robins' article covers very ably a subject that has been near our heart for a good many years in that many times some pretty good concerns fail to recognize all the costs incident to doing business; that is, the great number of items involved in this cost. Others that do reckon with all the items do not have the cost of each down for its full share as it really works out in the payment of the bills thereunder. Certainly glad you are taking hold of this subject to give it as wide a spread possible and through channels such as yours it is bound to be very effective.

Mr. Robins' makes no mention of the cash discount evil. This is a very definite cost and, in spite of the education and firm stand that has been taken by certain institutions in this and other businesses, there are still those customers who feel that the payment of an invoice anywhere from 14-15 days after its date up to 45, when it is due, for example, in 30 days net anyway, deserves some sort of a reward, not realizing that 30 days net or 1%, or whatever it is, in 10 days is just as much a part of the sale contract and the consideration as the price per pound or whatever unit it is and the weight involved, as well as the condition of the merchandise itself.

One per cent. in 10 days, if an account is due net 20 days later, is quite obviously 18% per year for the use of the money and this rate increases in proportion to the amount of time over the 10 days that the discount is taken and allowed. Obviously, a concern which has handled its credit situation in such a way that its bank lines are favorable can borrow its money anywhere from 4% to 6% according to the market, to its location, to its bank balance and other elements.

The sum-up of all the above being that a firmly established practice such as cash discount must for the sake of fair profit be held firmly to the lines laid down, for even then it is a sizeable reward for money in advance of its due date.

U. S. Soda Production at 145,770 Tons

Production of sodium compounds, not including common salt, from natural salines and brines in this country in 1927, as indicated by sales or shipments by producers, amounted to 145,770 short tons, valued at $3,834,324, according to the United States Bureau of Mines, Department of Commerce. These figures include the output of sodium carbonate (soda ash), sodium bicarbonate, sodium sulphate (salt cake and Glauber's salt), trona, and sodium borate (borax and kernite), and show a large increase in both quantity and value as compared with 1926 partly on account of the recent development of kernite deposits.

Sodium carbonates reported were all from California and amounted to 67,240 short tons, valued at $1,253,352. They were produced from Owens Lake, Inyo County, by The Clark Chemical Co., Lone Pine (soda ash), the Inyo Chemical Co., Lone Pine (soda ash, sodium bicarbonate, and trona), and the Natural Soda Products Co., Keeler (soda ash, sodium bicarbonate, and trona), and from Searles Lake, San Bernardino County, by the Westend Chemical Co., Westend (sodium bicarbonate).

Sales of sodium sulfate amounted to 23,080 tons, valued at $168,882. Sodium sulfate (salt cake) was produced at Clarkdale Yavapia County, by the Sodium Products Corp.; at Wabuska, Lyon County, Nev., by the American Sodium Co.; and at Monse, Okanogan County, Wash., by the Naso Chemical Co. Hydrated sodium sulfate (Glauber's salt) was produced at Casper, Laramie County, Wyo., by D. W. Gill.

Sodium borate, as borax, was produced from Searles Lake brines in San Bernardino County, Cal., by American Potash & Chemical Co. at Trona; and by the Burnham Chemical Co. and Westend Chemical Co. at Westend. Sodium borate, as "kernite," was mined by the Pacific Coast Borax Co. from the Baker deposit, Kern County, near Barstow, Cal.

Colemanite (calcium borate) was mined at the Ryan Mines, Death Valley Junction, Cal., by the Pacific Coast Borax Co., at the Gerstley plant, Shoshone, Cal., by C. M. Rasor, and at the Anniversary mine, Las Vegas, Nevada, by the Westend Chemical Co.

Total boron minerals shipped in 1927 amounted to 109.080 tons valued at $3,473,399.

Paint manufacturers and consumers met in verbal battle before the Tariff Board on May 16 in Ottawa, to debate whether duties on paint and paint ingredients should be raised or lowered. The consumers wanted the tariff lowered. The manufacturers, represented by W. H. McLaren, Ottawa, opposed any reduction. Carter White Lead Co., Montreal asked for increases in duty on dry red lead, orange mineral and litharge. Linseed oil makers asked that preferential tariff terms be withdrawn from linseed oil crushed in Britain but made from Argentine flaxseed.

Paris green makers pleaded that no reduction be made in tariff on this commodity. L. M. Chesley, for Watson, Jack and Co., Ltd., asked that oxide antimony be placed on the free list British preferential. White lead manufacturers opposed this, and R. H. Monk, for Titanium, Ltd., Montreal, asked that all white pigments be subjected to 20 per cent. tariff the same as white lead, so as to encourage manufacture in Canada. Oxide of titanium could be made in Canada from deposits found in Quebec province, he urged.

The Use of Gas
in making
DRY COLORS

By Ismar Ginsberg

THE dry color industry is one that deals with many products and a great complication of processes. Many of these operations are purely chemical in which ordinary precipitations are carried or where heat is employed to roast a mineral to convert it from the sulfide form for example into the oxide, while others are purely physical in which mineral matter is burnt by heating or minerals are ground to the form of fine powders. There are however many important colors, particularly the oxide colors, which are manufactured with the aid of heat. These oxide colors may be manufactured directly from the mineral or from other chemical compounds of the characteristic metal in their molecule. Thus, for example, chrome green is made from potassium dichromate. Oxide pigments are also often made by heating metals in air, as, for example, the lead oxide pigments.

Temperature Uniformity Important

It is understandable that wherever heat is used, the temperature to which the materials are subjected is generally an important factor in the process. Furthermore, not only the height of the temperature but its uniformity throughout the heating apparatus and the manner in which this temperature is attained, that is the rate at which the materials are heated up to the proper temperature may also be controlling conditions in determining the quality and production of the product. An instance may be cited in the case of chrome green which is generally made by the reduction of potassium chromate with ammonium chloride at a temperature of 500 to 700 degrees C. This operation is effected in furnaces or retorts and the duration of the process, which is of chemical nature, varies in accordance with the shape and construction of the apparatus and the nature of the heating. The temperature must be controlled at the proper point if a high grade product is to be obtained and furthermore the temperature must be uniform throughout the mass of reacting substances.

The gas industry has made a careful study of the heating problem. The gas engineer has acquired considerable experience and technical knowledge of both a practical and theoretical character on various thermal industrial operations. He has introduced his fuel into many industries and has shown that gas can be successfully used in heating operations, even though the B. T. U. cost of the fuel may be higher than that of other fuels. The gas man's success in the industrial field has been based on the superior service that his fuel can give, the greater efficiency at which it can be burnt than any other fuel, the great ease with which its combustion can be regulated the great convenience and cleanliness of gas and also on the various mechanical improvements which he has been able to make in the construction of the furnace and in the movement of the materials to, through and out of this apparatus.

The gas engineer has been successful in introducing his fuel into the dry color industry. It has been used there for various purposes and has been found to give good results, results which were more efficient and economical than those obtained with any other fuel. The writer recently had the pleasure of visiting one of the largest dry color works in the country, in which gas is used for a number of purposes, that is both for effecting chemical reactions, for roasting minerals as well as for just burning the dry color.

The Gas Fired Oil-Bath Furnace

An interesting apparatus in that plant is a gas-fired oil-bath furnace in which a reaction is made to take place between certain raw materials by bringing them up to the melting point. The furnace holds about 150 pounds of chemicals and is provided with a double jacket which contains the oil. The furnace is arranged in a suitable setting and the heat is supplied by burning gas in a suitable burner.

This operation allows one of the most interesting and sometimes important advantages of gaseous fuel to be demonstrated. The nature of the process which is carried out in this apparatus is somewhat as follows. The chemicals are heated up to a temperature of 225 degrees F. as quickly as possible. As soon as the chemicals melt, reaction takes place, and the gas is then immediately turned off and the mass is allowed to cool off in the kettle. The kettle is provided with stirring apparatus which aids the cooling material to

grain and finally to be converted into a dry color in the form of snow-flake like crystals.

In the past great inconvenience and loss has been incurred due to the fact that the coke fire could not bring up the chemicals to the correct reaction temperature fast enough. Under these conditions the reaction does not take place properly and both the yield and the quality of the product suffer. When gas was used in this operation, it was found that the temperature rose very rapidly, in fact more rapidly

View of a gas fired cauldron furnace installed at a dry color plant.

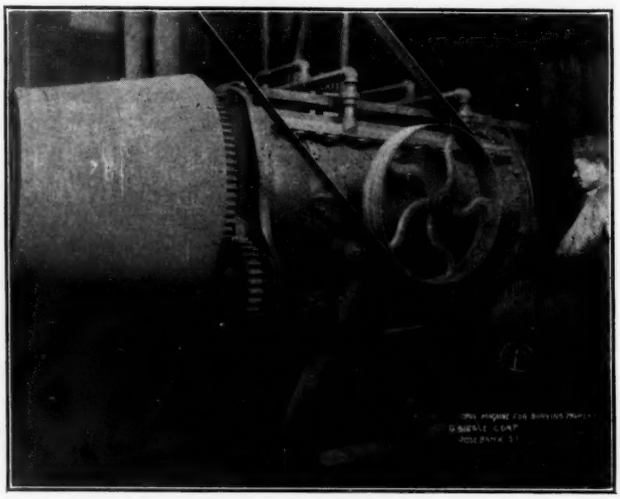
than with any other fuel, and the reaction was therefore carried out under the best possible conditions. The reason for this is of course understandable from the composition of the gas and knowledge of the rate of flame propagation of the various ingredients contained in it. Oil contains high boiling and high molecular weight hydrocarbons whose rate of flame propagation is low and hence the rise in temperature procurred with oil is slow as compared with gas which contains both hydrogen and carbon monoxide which have most rapid rates of flame propagation.

This is an important property of gaseous fuel and it may well be of great value in other chemical processes and reactions both in the dry color field and elsewhere. Wherever it is essential to bring up a mixture of materials to a high or fairly high temperature as rapidly as possible and where the rate at which the temperature rises affects not only the production but the quality of the manufactured product, there will be found an application to which gas is eminently suited.

The advantageous use of gas in this operation also rests on the fact that it can be readily regulated by thermostats and thus the temperature within the mass of reacting substances may always be maintained at the proper point. In the case where the temperature is merely allowed to rise to 225 degrees F and then the heating is discontinued, the flexibility of the gaseous fuel has been found to be of decided advantage. Furthermore the ease with which the temperature is controlled was found to be of particular value in many instances for the temperature always has an important effect on the shade of the color. And while too high temperatures might materially affect this shade, too low temperatures might well have the same effect besides slowing down the process and reducing the yield and production. Automatic thermostatic control has always been found to work very well with gaseous fuel.

Another interesting installation in this plant was for the purpose of muffling. A considerable amount of experimentation had to be conducted before the correct results were obtained and these were dependent to a large degree on the control of temperature. When gas entered upon the scene, these experiments were at a critical point and the aid rendered by this fuel had much to do with their success. It is impossible to give details on this operation except to say that it is carried out in a continuous muffle, which is open at both ends, the materials being conveyed through it. The uniformity of the temperature throughout the entire apparatus is an essential condition of the process and it was found that gas was a superior fuel for this purpose due to the ease with which its combustion could be controlled. When the furnace is properly designed, the burners properly designed and located and the combustion chamber properly constructed, it will always be found that gas will give uniform temperatures throughout the length and width of the furnace no matter what they might be.

Another interesting installation in this plant was one used for roasting pigments. At first a coke



Close up of a rotary heating machine for burning pigments.

furnace was used into which there was built a sixteen inch cast iron pipe which formed a sort of muffle. The raw material was roasted in this furnace. The operation lasted about six to seven hours. Hot spots also caused a great deal of trouble, and then the material pulled out and the mass allowed to cool.

The pigment solidified and was found quite difficult to remove it being necessary to hammer and pound it out by hand. *(Continued on page 694)*

Commercial Developments of HELIUM GAS

HELIUM gas, which has heretofore been considered a rare element and not obtainable on the open market is now available in commercial quantities. Unusual interest is being manifested in its physical and chemical characteristics in the field of science and because of its unusual properties, it is expected that new fields of usefulness will be discovered and developed for the benefit of industry.

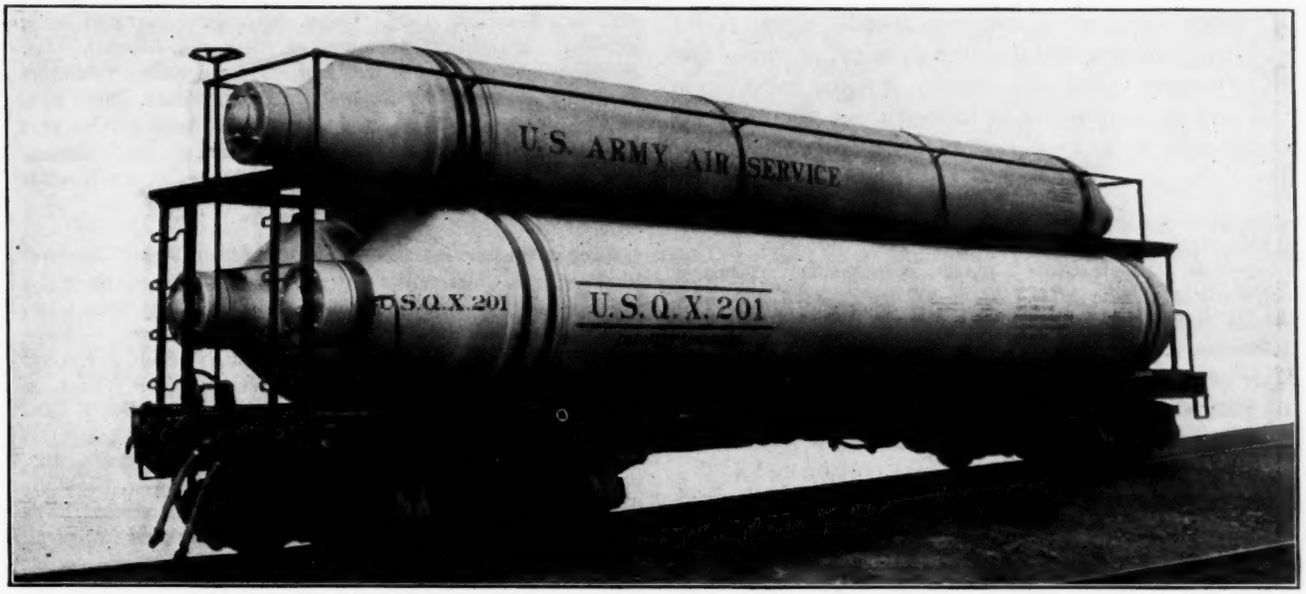
The story of helium affords a striking example of the way in which unexpected values accrue from fundamental research. The gas was first discovered in the sun through spectroscopic observation by Janssen and Lockyear at the time of the solar eclipse of August 18, 1868. In 1895, Ramsey, searching for additional sources of the newly discovered element argon, discovered traces of helium in the mineral cleveite. Later, traces of helium were found in Canada and still later in France. It was observed that it was always found in natural gas in the vicinity of minerals of a radio-active nature. During the World War, Doctor Ramsey suggested to our war department that they seek helium in certain natural gas fields where the radio-active minerals were present. His theory proved to be correct and the search for helium was successful. An extraction plant was then erected in Texas to supply helium exclusively for the use of the United States Government.

More recently, helium has been made available commercially by the discovery of new natural gas fields having a higher helium content and the development of an improved process of extraction by The Helium Company.

The first and most important use of helium to date is for inflating dirigible and passenger balloons, of the Shenandoah and Los Angeles type. Because of the fire and explosion hazard, the use of a combustible gas for inflating passenger balloons has been banned by the U. S. Government. Helium is absolutely non-inflammable and its lifting power is but little less than that of hydrogen. Because of these two characteristics—lightness and non-inflammability—it is also being used extensively for filling toy balloons that float in air for advertising, entertainment and amusement purposes.

Helium for Deep Sea Diving

Another development is the use of helium to make a synthetic atmosphere of oxygen and for deep sea diving and caisson work involving labor under abnormally high pressure. Its use for this purpose minimizes the danger of "the bends" or "cassion sickness." This extremely painful and sometimes fatal ailment is believed to be due to the release of nitrogen previously dissolved in the blood due to excess pressure. The advantage of helium in this instance is that it is not only more inert than nitrogen,



Car now in use by War and Navy Departments for transporting helium gas. Note the unique but rugged structure of the individual tanks held to the car by body bolsters only. The contents of these cars is 1516 cubic feet.

but has the lowest solubility in water of any gas known. The tendency therefore is to increase the limits of the pressure at which work of this kind can be preformed, greater depths in diving work, for instance. It also lessens the time of compression and decompression of the operator which is an important factor.

Helium not only has low solubility in water, but is also practically insoluble in molten metals. For this reason, it is used in preference to other non-oxidizing gases such as nitrogen and hydrogen, in annealing processes and metallurgical operations. It is also used as a damper for nautical and other scientific instruments because of its high viscosity, which is greater than air, its high thermal conductivity which is more than six times that of air, its high specific heat, low dielectric constant, etc. It is being used for filling radio tubes and glow lamps and tubes for signs and as a cooling medium in electric transformers and high speed generators. Helium has the lowest boiling point known—267.9° C.

Helium in Drying Operations

Drying operations is another field in which helium can be utilized to speed up operations and make products of superior quality. Water and other solvents have a higher vapor pressure and consequently will evaporate more rapidly in an atmosphere of helium than in the air or a vacuum. Because it is chemically inert, has high heat conductivity and low density and can therefore be circulated rapidly, it is particularly suitable for drying organic and inorganic chemicals quickly and efficiently.

Due to its practical insolubility helium may also be used advantageously in the manufacture of toilet preparations for homogenizing creams, soaps, pastes, etc.

To date, the field of usefulness of helium has been developed because of its low specific gravity, its chemical inertness and its low solubility. Some of the other properties are undoubtedly of equal importance and new developments in industry can therefore be anticipated with the aid of scientific research in new directions.

American Zinc Institute's foreign correspondent estimates world stocks of zinc May 1 at 66,100 metric tons of 2,204.6 pounds each, compared with 62,900 tons April 1, increase of 3,200 tons. Stocks March 1 came to 61,100 tons, while January 1, 1928, they were 56,100 tons, and January 1, 1927, 43,600 tons.

Following table gives in metric tons estimates of the Institute's foreign correspondent for the various important countries at various periods:

	1928			
	May 1	*Apr. 1*	*Mar. 1*	*Jan. 1*
United States	40,600	37,700	37,500	37,000
Canada	4,200	4,000	3,000	2,400
Australia	3,500	3,500	3,300	2,800
Germany and Poland	6,300	6,600	6,400	6,100
Belgium	5,100	5,600	5,800	4,200
Great Britain	1,400	1,300	1,200	1,100
Scandinavia	200	200	200	200
Far East	800	800	800	600
Elsewhere	4,000	3,200	2,900	1,700
Total	66,100	62,900	61,100	56,100

Who's Who In Chemical Industry

Bartlett, North Emory, vice-president and general sales agent, Pennyslvania Salt Mfg. Co. Born, Easton, Talbot Co., Md., 16 May 1870; mar., Bertha M. Kennedy, Phila., Pa., 16 Nov. 1898; children, 3 daus.; educat., pub. schls. and private tutoring. Thirty-four years in employment Pennsylvania Salt Mfg. Co., Chemical Alliance, Alkali Div., 1917-18. Clubs: Chemists', Drug & Chemical, Art, and Academy Natural Science. Hobbies: fishing, boating, hunting. Address Pennsylvania Salt Mfg. Co., 1000 Widner Bldg., Phila., Pa.

Dean, Carlton Miles, in charge of department of Merrimac Chemical Co. at Woburn, Mass. Born, Lowell, Mass., 18 Nov., 1895: mar., Christine A. Danforth, Salem, Mass., 10 Jan., 1926; educat., Mass. Inst. Tech., B. S., 1917. Supt. Sulfuric Acid, Bisulfite Soda and Alum Depts., of Merrimac Chemical Co., since 1917. Capt. Chem. Warfare—res. Member Amer. Inst. Chem. Engnrs. Clubs: Towanda, (Woburn). Hobbies: books & bridge. Address: Merrimac Chemical Co., Woburn, Mass.

Kienle, John A., vice-president, The Mathieson Alkali Works, Inc. Born, Wilmington, Del., 14 Sept. 1884; mar., Marie W. Morris, Wilmington, Del., Feb. 1914; educat., Temple Coll., Phila., Pa., hydraulic engr., 3 yrs. Bureau Park Comm., asst. engr., 1902; U. S. Govt. Filtration Plant, Wash., D. C., Jr. Eng., 1904-08; Bureau Water Comm., Wilmington, Del., asst. engr., 1908-13; Electro Bleaching Gas Co., N. Y. C., sales mgr., 1913-20; Mathieson Alkali Wks., sales mgr., 1920-22, vice pres., 1922 to date. Early chem. work—largely responsible for introduction of chlorine in sanitary engineering, particularly treatment of public water supplies. Memb., Chem. Salesmen's Assn. Clubs: Uptown, Coldstream Country, Pomonok Country, Seaview Golf, Chemists.' Hobbies: golf, hunting. Address: The Mathieson Alkali Wks., Inc., 250 Park Ave., N. Y. C.

Knecht, Gustav, president and general manager, Braun-Knecht-Heimann-Co. Born, Chicago, Ill., 7 Sept. 1875; mar., Mary Frances Lindley, Los Angeles, Calif., 9 Apr. 1912; children, 1 son, 1 dau.; educat., high schl.; pvt. instruction, chem., 2 yr.; apprenticeship, Germany, 3 yr. F. W. Braun Whol. Drug., Los Angeles, vice pres. & asst. gen. mgr., 1904-07; Brunswik Drug Co., vice pres., gen. mgr., 1907-08; Braun-Knecht-Heimann-Co. org., San Francisco, 1908. Chem. War. Serv. (advisory bd.); conversion of plants to war purposes, chem. div. (chmn.). Org. & conducted sales agency for Californian quicksilver producers until 1920, when agency disbanded. Memb., Amer. Chem. Soc. (San Francisco). Clubs: California, Los Angeles Country, Bohemian, Olympic, Menlo Country, Presidi.Golf, San Francisco Golf and Country. Hobby: golf. Address: Braun-Knecht-Heimann-Co., 584 Mission St., San Francisco, Calif.

Kochs, Walter A., assistant to president, Victor Chemical Works. Born, Chicago, Ill., 4 Aug. 1896; mar., Frances Kennedy, Chicago, Ill., 7 Aug. 1918; children, 2 daus. Victor Chem. Wks., asst. to pres. Memb., Chicago Drug & Chem. Assn., Chicago Athletic Assn., Chicago Town & Tennis Club. Hobby: athletics. Address: Victor Chemical Works, 343 S. Dearborn St., Chicago, Ill.

Lavino, Edwin M., president, Lavino & Company, Inc. Born 9 Sept. 1885; mar., Constance Muller Hunter, Chestnut Hill, Phila., Pa., 23 June 1925; children, 1 son; educat., Lawrenceville Schl., 1904; Univ. Pa., 1909. E. J. Lavino & Co., pres.; Lavino Amer. & Asiatic Co., pres.; Lavino Furnace Co., pres.; Lavino Shipping Co., pres.; Lavino Refractories Co., pres. 1st Lt., U. S. Q. M. C. Memb., Phi Kappa Psi. Clubs: Racquet, Phila. Cricket, Down Town, Penn Athletic. Address: Lavino & Co., Inc., 470 Bullitt Bldg., Philadelphia, Pa.

ANNUAL REPORT

of the

Executive Committee

Manufacturing Chemists' Ass'n

IN summing up the events of the past year as affects the chemical industry, the annual report of the Executive Committee of the Manufacturing Chemists' Association submitted by S. A. Wilder, Chairman, again serves to emphasize those points vital to a continuation of the present progress made in the industry toward the end of placing the manufacture and sale of chemical products in the front rank of the country's enterprises.

Those two ever present questions of freight rates classifications and foreign competition are, as usual, of prime importance and head a list of recommendations and suggestions which include the tariff, tax reduction, bills pending before Congress, prohibition, a review of the Chemical Conference and publicity.

Attention is first called to the fact that with a presidential year the question of possible revisions in the present tariff act loom large. Because of activity in Congress to date it seems natural to anticipate action by the forthcoming session of Congress in the direction of tariff revision. In the past session of Congress a variety of bills were introduced, in some cases calling for a reduction in the rates of industrial schedules and in one instance, under the guise of reciprocity, aimed directly at the chemical industry.

Progress on Freight Rates

Progress on the all important work of freight classification and new and standard containers has been very satisfactory during the year and relations with the various railroads and regulatory agencies has been also most cordial. Easily the most important matter before the Traffic Committee of the Association has been and still is the study of the freight rates imposed on chemicals and their relation to rates charged to other industries. Because of the wide scope and importance of this question nothing definite is reported but progress is being made.

The Association has joined with other branches of industry in a petition to the Interstate Commerce Commission for a reconsideration of the ruling in Southwestern, Western Trunk Line, Central Freight Association and Illinois Freight Association territories, calling for cancellation of one-half of fourth class rates on empty returned iron and steel containers, less carload, and the application of a straight fourth class rate.

The Bureau of Explosives has again testified to the effectiveness of the Association's work in the promotion of safety in the transportation of dangerous articles. The various committees on container specifications have examined a variety of new types with the result that some of these have been favorably reported on. As an instance of the good work done, the case of nitric acid fire loss is cited and shows a drop in the fire loss from $11,192 in 1926 to $2,443 in 1927. Again the case of carboy breakage is cited with equally successful results—913 cases of breakage of acid in boxed carboys valued at $38,455 in 1920 against 245 cases of breakage with a loss of $5,577 in 1927.

New Tank Car Developed

Constructive work is also reported by the Tank Car Committee, though no vital changes from the specifications laid down by the Interstate Commerce Commission on July 1, 1927, have been deemed necessary. During the year a new tank car specification was developed for the shipment of nitric acid and the construction of a car conforming with this specification is contemplated by a member of the Association. In this connection, it also develops that the complete rearrangement of existing I. C. C. Regulations by the Bureau of Explosives is nearing completion and will be ready for distribution and consideration, at which time notice will be given of a public hearing before the Commission.

The fact that more than the usual number of bills affecting the industry were introduced in the last session of Congress necessitated a rather close scrutiny of proceedings in Washington. With the exception of possible unfavorable reactions on some branches of the industry through potential Government operation of Muscle Shoals, no adverse effects on the

industry through legislation have transpired during the year. After several unsuccessful attempts to get the Insecticide Mailing Bill through Congress, there is every reason to believe that favorable action finally will be taken, particularly as the present measure has the endorsement of the Post Office Department. Support was given the Import Purchase Pool Bill which would have authorized chemical manufacturers, as well as others, to organize for pool purchases of imported goods held in foreign monopoly control. Prospects of the bill passing Congress were quite bright, but it was defeated at the last moment. No formal appearance was made on the War Claims Bill.

Harmful Measures Defeated

Three measures, namely those covering Spray Painting Machines, Exportation of Munitions to Belligerents and an amendment to the Tax Reduction bill calling for the free entry of certain coal tar dyes, were outstanding as capable of working great injury to the industry, but all were defeated. It is pointed out that the latter of these three measures—that which refers to free entry of dyestuffs—is still to be considered a menace as it forecasts the attitude that may be taken in some quarters when the next tariff comes under consideration.

Close co-operation continues between the Association and the Customs Bureau, Appraisal officers and the Food, Drug and Insecticide Administration with benefits accruing to both parties. Because of activity in former years, the year under survey has been remarkably void of any signs of dumping of foreign goods on the American market. This is attributed by some of our foreign representatives as due entirely to close supervision which followed the enactment of the anti-dumping law.

Comment is made of the very favorable progress which has been made in the adjustment following the release of the regulations for manufacturing under the Caustic Poison Act. The Food, Drug and Insecticide Administration has done some very constructive work on the measure and helpful in the extreme to the industry.

Chemical Conference Helpful

A review of the proceeding of the Second Chemical Conference brings to mind the outstanding contribution of the meeting—the paper delivered by William J. Donovan, Assistant to the Attorney General, on the attitude of the Department of Justice toward industrial and business combinations. Dr. Julius Klein's characterization of waste in distribution as the outstanding problem of industry is also favorably commented on, as is the foresight of the Department of Commerce in recalling at the time of the conference Trade Commissioner W. T. Daugherty of Berlin and Assistant Commercial Attache Daniel F. Regan of Paris who gave reports on conditions of the industry in Germany and France respectively.

The committee on Poisonous Articles and Miscellaneous Packages devoted practically its entire time to additions and changes on Class B poisons following the complete revision of this group during the previous year. Sufficient time has not elapsed to judge of benefits derived from the revisions and changes, but no failures have been reported by the Bureau of Explosives.

The Hazardous Chemicals Committee will in all probability be continued as a result of the work accomplished at the meeting last December with the National Fire Protection Association. Because of some slight variance with the table drawn up by the American Chemical Society for the National Fire Protection Association it is deemed advisable to form a joint committee with the American Chemical Society for the presentation of a uniform table.

Publicity Increase Noted

The great increase in the volume of publicity that has been afforded the industry, not only by trade and professional journals, but also by the public press, is the cause of very favorable comment by the Committee. This is considered of inestimable value for the purpose of impressing on our national legislators the essential place occupied by the industry in the economic life of the country. During the year an invitation has been received from the Associated Press requesting contributions for mail or telegraphic articles that could be served to 1,200 members of this news gathering organization. The committee offers the suggestion that this invitation opens up avenues of publicity, the value of which hardly can be overestimated. There are men in all member companies who could prepare interesting papers for popular reading and it is recommended that the invitation of the Associated Press be brought to their notice.

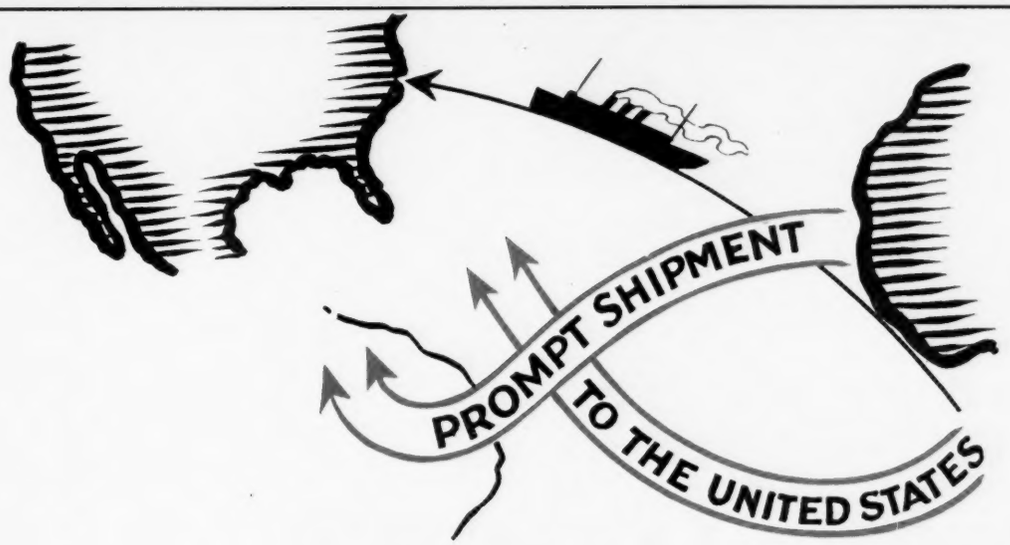
Another avenue of publicity is provided in the radio service of the Department of Agriculture. The Department has a daily hour for broadcasting programs suitable to region and season. The interest of the industry in the programs consists in the advice given by exports on the use of insecticides and fungicides.

Interstate Commerce Commission establishes through route and joint rate on crude sulfur from Gulf Hill, Tex., to East St. Louis, Ill., by the rail lines in connection with the barge line of the Inland Waterways Corp. Commission also found that reasonable rate will be 2.5 cents per hundred pounds less than corresponding all-rail rate and that reasonable division will be 45 per cent. of the joint rate to the rail carriers to Baton Rouge, La., and 55 per cent. to the barge line.

Commission also suspends until Nov. 10, 1928 schedules proposing both increases and reductions in rates on clay and kaolin, carloads, from Southern points to East St. Louis, Ill., for beyond, and to points in Wisconsin, Minnesota and Michigan (Upper Peninsular). These schedules were published in Supplements 12 and 14 to Agent J. H. Glenn's tariff I. C. C. No. A-612.

Secretary of Commerce Hoover's recommendation that importers be allowed to combine in their purchases from foreign monopolies, as embraced in the Newton bill, is rejected by the House, 181 to 120, on April 6.

AT LAST,



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Chemical Facts and Figures

Adriatic Nitrogen Conference Devoid of Startling Developments

Sir David Milne-Watson Presides at "Lutzow" Conferences —Irenee du Pont and Landis Among Americans Present—Conference Favors Extensive Research Work —Reduction in Plant Food Price Recommended— Many Papers Delivered.

Second International Nitrogen Conference ends May 10 with the arrival of the delegates in Paris after a ten-day cruise in the Adriatic, begun from Venice, April 30. The delegates came from fifteen different countries and represented firms interested in the production of synthetic nitrogen. Among the Americans who participated were Irenee du Pont, vice-chairman, E. I. du Pont de Nemours & Co.; Dr. Walter S. Landis, American Cyanamid Co.; W. N. McIlvray, vice-president, Barrett Co.; Sidney B. Haskell, Synthetic Nitrogen Products Co.; Prof. Harry Curtiss, Yale University, representing the United States Department of Agriculture; James B. D. Edge, E. I. du Pont de Nemours & Co., Inc., Carl B. Peters, president, Synthetic Nitrogen Products Co.; and William Cullen Morris, president, American Gas Association.

The conference opened May 1, aboard the S. S. "Lutzow," with Sir David Milne-Watson presiding. In addition to formal and informal discussions of the industry's problems, the following papers were delivered at the conference: "The Nitrogen Industry, Its Past and Future Development," Dr. J. Bueb, Germany; "Some Nitrogen Problems," F. C. O. Speyer, general manager, Nitram, Ltd., England; "Natural and Economic Principles Governing the Use of Artificial Fertilizers, Prof. H. Warmbold, director of agricultural research, I. G. Farbenindustrie, Germany; "Observations on the Association of Ammonia and Nitrate Nitrogen in the Manuring of Crops," Dr. A. Demolon, France; "Fertilizer Problems and Prospects in India," T. H. J. Carroll, assistant director of agricultural research, Nitram, Ltd.; "Production of Concentrated Nitric Acid by the Oxidation of Ammonia Under Pressure," Dr. G. Fauser, Germany; and "Soil Irrigation and Liming in their Relation to the Nitrogen Fertilizers," M. Galland, France.

The conference unanimously adopted the following recommendations:—

In constructing nitrogen-fixation plants such points be selected that will guarantee the lowest possible production costs.

To use all modern scientific and technical improvements with the aim of better products at reduced cost.

To conduct extensive research work in the production of various plant food forms and combinations, taking into account the characteristics of different plants, and the variety of soils and climate. No fertilizer has as yet been found that can be called superior under all conditions.

To see that the consumer receives commercial plant food by the shortest possible route and at the lowest transportation cost.

To lower the price of all plant foods as much as possible without preventing economic production and the adequate support of research to improve production methods.

Meisel, American Chemist, Freed

Guido Meisel, American chemist of Portsmouth, N. H., who Feb. 18 was sentenced to one year's imprisonment and a fine of 5,000 marks on charges of commercial espionage in seeking to obtain chemical and dye secrets of the I. G. at Dusseldorf, Germany, is released upon payment of his fine. He had already spent eight months in jail before being brought to trial. In convicting him, the court ruled that as a trained business man and experienced chemist, he must have been aware that he was obtaining valuable professional secrets through illegitimate methods and that he was in a position to make profitable disposal of them.

John W. Boyer Joins Monsanto; Edgar M. Queeny Elected President

Monsanto Chemical Works, St. Louis, announces election of John W. Boyer, formerly sales manager, Mathieson Alkali Works, New York, as vice-president in charge of sales, succeeding Edgar M. Queeny. Mr. Queeny is now president of the company, in which office, he succeeds his father, John F. Queeny, who has retired as president but retains his position as chairman of the board.

Edgar M. Queeny was born in St. Louis, Sept. 27, 1897. He received his education at the Pawling School, Pawling, N. Y.,

Edgar M. Queeny

John W. Boyer

and Cornell University, receiving the degree of A. B. from the latter institution. He became associated with Monsanto in 1919 after over a year of service as lieutenant in the United States Navy during the World War. He is a member of Alpha Delta Phi and of the University Club, St. Louis. He is a director of Mercantile Trust Co., St. Louis; Graesser-Monsanto Chemical Works, Tar Acid Refining Corp., and Lafayette Industrial Loan and Investment Co. His wife is the former Miss Ethel Beach Schneider of Washington, D. C.

John W. Boyer was born in Catasauqua, Pa., Feb. 13, 1886. Upon his graduation from Lehigh University in 1907 with the degree of M. E. he became associated with the Portland Cement Co. In 1916 he was placed in charge of the development of by-products in the Detroit plant of the Solvay Process Co., where he remained until 1920 except for a year which he served as first lieutenant in the Chemical Warfare Service, United States Army. In 1920, he became assistant sales manager, Mathieson Alkali Works, and in 1922, sales manager, which position he was holding when elected vice-president of Monsanto Chemical Works. He is a member of Psi Upsilon, the Salesmen's Association, the Chemists' Club, New York; the Lotos Club, New York; the Detroit Club; the Duquesne Club, Pittsburgh. His wife is the former Mary Howland Ball of Detroit.

Mr. Boyer will make his headquarters at the New York offices of Monsanto Chemical Works.

Personal and Personnel

Arthur D. Little, Boston, is nominated for the presidency of the Society of Chemical Industry, Great Britain. Nomination is considered equivalent to election. The annual meeting of the society will be held in New York in September for the third time since 1898. Mr. Little will be the fifth American to serve as president.

Henry B. du Pont, treasurer, E. I. du Pont de Nemours & Co. Inc., acquires specially designed Bellanca plane, capable of 1,000-mile non-stop flights, in order to facilitate week-end trips from Wilmington to the home of his fiancee, Miss Margaret W. Lewis, at San Antonio, Tex.

Henry Miner & Son, Inc., a new corporation, opens offices at 90 West street, New York, handling alcohol, methanol, and coaltar and other solvents for the lacquer, varnish, and leather industries. Edward S. Wright is sales manager for the company.

Philip Moll, formerly sales manager, C. H. Boehringer Sohn, Hamburg, Germany, and more recently, vice-president and sales manager, Dissosway Chemical Co., becomes assistant sales manager, Roessler & Hasslacher Chemical Co.

Charles F. Burnside, for many years an outstanding figure in the smokeless powder industry, dies May 23, aged 70. His home was in Wilmington, Del., and he was formerly connected with the du Pont Powder Co., retiring in 1919.

John P. Hubbell, for past nine years, assistant chief of research, New Jersey Zinc Co., and previous to that with General Chemical Co., becomes a partner in the firm of Singmaster & Breyer, chemical engineers and metallurgists, New York.

Dimmitt R. Lovejoy, assistant professor in electrical engineering, Columbia University, and co-developer with Charles S. Bradley, of a process for fixation of nitrogen, dies at Matawan, N. J., May 31, aged 57.

E. E. Zimmerman Co., Philadelphia, is appointed selling agent and distributor for the vegetable oils of W. R. Grace & Co., New York, and sales agent for Taylor, Lowenstein & Co., naval stores, Mobile, Ala.

Alex M. Lawson, research chemist, Calumet Chemical Co., Joliet, Ill., resigns to accept position as research and development chemist, Pennsylvania Salt Manufacturing Co., Wyandotte, Mich.

Richard C. Hedke, vice-president and general manager, Eaton-Clark Co., Detroit, is unanimous choice of conference delegates for new governor, 23rd District Rotary International.

Irenee du Pont, chairman, Finance Committee, E. I. du Pont de Nemours & Co., Inc., is elected a vice-chairman of the National Industrial Conference Board.

William M. Rand, treasurer, Merrimac Chemical Co., Boston, is elected vice-president of the company, at the same time retaining his former office.

Everett E. Brainard, Merrimac Chemical Co., Boston, is elected president, New England Purchasing Agents' Association, Inc.

W. C. Cottingham, Sherwin Williams Co., Ltd., Canada, leaves on business trip to England.

Horace G. Carrell Dies at Sea

Horace G. Carrell, general manager, Solvay Sales Corp., New York; vice-president, United States Alkali Export Assn.; and prominent in the alkali industry, dies on May 17, aged 55. He had been in poor health for several months and, accompanied by Mrs. Carrell, was aboard the S. S. "Jefferson", of the Old Dominion Line, bound for Norfolk, Va. It was hoped that a period of rest and relaxation in the South would completely restore him to health. However, on the first night out of New York he was seized with a sudden heart attack which resulted in death.

He was born January 12, 1873 near Jamestown, N. Y. Following his graduation from Cornell University in 1897 with a B.A.S. degree, he become associated with the Solvay Process Co., Syracuse, N. Y., as a chemist. In 1907 he became the Western representative of the Semet-Solvay Co., which position he occupied until 1912 when he accepted the position as sales manager of the Kansas Chemical Manufacturing Co. In 1915 he returned to the Solvay Process Co. to engage in special work, from which he was called in 1918 to serve as chief of the alkali section of the War Industries Board in Washington.

When released from these duties, he was appointed sales manager of Wing & Evans, Inc., New York, selling subsidiary of the Solvay Process Co. This later became the Solvay Sales Corp., with Mr. Carrell as general manager from 1927 until the date of his death.

He was a member of the Cornell Club and the Chemists' Club, New York; the Century Club, Syracuse; the Society of Chemical Industry and the American Chemical Society. He is survived by his wife, Miriam Grace, and a sister, Theodora M. Carrell.

Permanganate Duty Hearings Continue; Importer's Counsel Hints at Monopoly

Application of Carus Chemical Co., La Salle, Ill., for increased tariff rates on potassium permanganate (CHEMICAL MARKETS, April, May 1928) is now under consideration by United States Tariff Commission. A further hearing was held May 21, at which Hugh M. Frampton, Washington, D. C., appeared as counsel for the Carus company, while James A. Delahanty, counsel for D. H. Litter Co., Inc., New York, argued in opposition of increased duties.

Mr. Frampton filed a number of exhibits to show that prices will rise if American production ceases. He said that the consumers' protection lies "in the keeping of at least one producer operating as a safety valve against high prices." Mr. Frampton denied statements made by the opposing counsel to the effect that the applicants were seeking, "a monopoly, a subsidy."

Mr. Delahanty argued for a reduction in tariff rates, declaring that the "applicant's claims are wholly insufficient to warrant any increase in the existing tariff rate." Additional investigation must be undertaken if American industry is to be fairly dealt with," he declared. He urged reduction of the rate to two cents per pound.

American Potash & Chemical Corp., announces in this issue, a reduction in the carload price of borax and boric acid. The process for making borax and boric acid and potash has been perfected and its plant is now the largest producing borax plant in the World.

Many Notables for Coal Conference

President Baker, of the Carnegie Institute, has come back from his European junket with a bag full of lions to exhibit at the Second International Conference on Bituminous Coal, which will be held in Pittsburgh the week beginning November 19.

Sir Alfred Mond, Dr. Bergius, Dr. Franz Fischer—one of the stars of the first Conference—Professor Fritz Hoffman, inventor of the much talked about synthetic rubber made from coal; Dr. Carl Krauch—an I. G. director, Donat Agache, chairman of the Board, and Raymond Berr, general manager of the Kuhlmann interests in France—Alberto Bianchi, of the Bianchi Dye Company, Italy; A. France, representing the Semet-Solvay interests from Belgium—a pair of Russians, a trio of Japanese, and such familiar American names as L. C. Jones, C. F. Kittering, Arthur D. Little, Parr of Illinois; Hugh Taylor of Princeton; Harry Curtis, of Yale; Christie, of John Hopkins, are promised as headliners. As Mr. Barnum used to say "70 scientists and fuel technologists from eleven different countries, count 'em, ladies and gentlemen!" Seriously, the conference will discuss the latest developments in low temperature distillation, the commercial utilization of chemical coal tar by products, the more complete gasification of coal, hydrogenation and the fixation of nitrogen, the use of pulverized fuel and some of its new appliances and applications.

Harkins Gets 1928 Gibbs Medal

William D. Harkins, professor of physical chemistry, University of Chicago, receives Willard Gibbs Medal for 1928 at meeting of Chicago section, American Chemical Society, at the Palmer House, May 25. Prof. Harkins delivered an address on "Surface Structure and Atom Building." Prof. S. C. Lind, director, School of Chemistry, University of Minnesota, made the presentation address, discussing "Harkins, the Scientist." Prof. G. L. Clark, University of Illinois, spoke on "Harkins, the Teacher and the Man"; and S. L. Redman, chairman, Chicago section, on "The Willard Gibbs Medal." Other speakers included: Prof. Arthur H. Compton, University of Chicago, Nobel prize winner in physics, 1927; Dr. Leo H. Baekeland, honorary professor of chemical engineering, Columbia University and former president, American Chemical Society; Dr. Harrison E. Howe, National Research Council; Max Mason, president, University of Chicago; and Prof. S. W. Parr, University of Illinois, president, American Chemical Society.

Oil Chemists' Society holds nineteenth annual convention at Roosevelt Hotel, New Orleans, May 14 and 15. The following officers were elected for the coming year: A. W. Putland, president; W. R. Stryker, G. K. Witmer, and W. H. Irwin, vice-presidents; and J. C. P. Helm, secretary-treasurer. Most of the two-day meeting was taken up by committee reports and discussions of common problems. At the session on May 15 the announcement of the award of the Battle Cup was made. This cup, awarded annually for the highest laboratory average shown for the preceeding year, was given to W. F. Hand, Mississippi State chemist.

Emery Candle Co., Cincinnati, established in 1840, changes its corporate name to Emery Industries, Inc. Company is among the world's largest producers of stearic and oleic acid and has had a steady and profitable growth during the past three years. Production and sales during the first quarter of 1928, exceeded those of any corresponding quarter during peak war years.

An appropriation of $50,000 for development of potash jointly by the Departments of the Interior and of Commerce, by improved methods of recovering potash from deposits in the United States, is provided for in the Winter bill (H. R. 496) which passed the House May 21. (CHEMICAL MARKETS April, May 1928).

Henry Howard Re-elected President of Manufacturing Chemists' Association

Manufacturing Chemists' Association holds annual meeting at the Harvard Club, New York, May 23. Officers for the coming year were elected as follows: president, Henry Howard, Grasselli Chemical Co., Cleveland; vice-presidents, W. D. Huntington, Davison Chemical Co., Baltimore, and H. A. Galt, Columbia Chemical Division, Pittsburgh Plate Glass Co., Barberton, Ohio; treasurer, Philip Schleussner, Roessler & Hasslacher Chemical Co., New York; secretary, John I. Tierney, Woodward Building, Washington.

Members of the executive committee were elected as follows: Salmon W. Wilder, Merrimac Chemical Co., Boston, chairman; Dr. Charles L. Reese, E. I. du Pont de Nemours & Co., Inc., Wilmington; William H. Bower, Henry Bower Chemical Manufacturing Co., Philadelphia; C. W. Millard, General Chemical Co., New York; H. F. Atherton, National Aniline & Chemical Co., New York; H. L. Derby, Kalbfleisch Corp., New York; and George W. Merck, Merck & Co., Rahway, N. J.

In addition to the report of the executive committee and other business, the business session was addressed by Virgil Jordan, chief economist, National Industrial Conference Board, on the subject of business conditions, with special reference to the chemical industry. A. Cressy Morrission, Union Carbide & Chemicals Corp., spoke at the banquet later in the evening on foreign trade and the development of the industry as influenced by tariff protection. Ivy Lee also spoke advocating the gradual resumption of trade relations with Russia.

A. I. C. Elects Breithut President

American Institute of Chemists elects Dr. F. E. Breithut, College of the City of New York, president at its annual meeting in Washington, May 12. Other officers for the coming year are: vice-president, Lloyd Van Doren, New York consulting chemist; secretary, Howard S. Neiman, editor, Textile Colorist; and treasurer, C. K. Simon, New York consulting chemist. Dr. Harvey W. Wiley, former chief, United States Bureau of Chemistry, was elected honorary fellow of the institute. Dr. Alfred R. Merz, president of the Washington chapter, presided, and among the speakers were Prof. Treat B. Johnson, Yale University, retiring president; Dr. Breithut; Dr. F. W. Clark, United States Geological Survey; and Dr. C. E. Munroe, United States Bureau of Mines.

Phosgene Explosion Starts Investigation

Factory of Dr. Hugo Stolzenberg, Mueggenburg, Germany, closes down as phosgene gas scandal assumes greater proportions. The first development was an explosion, May 20, of a tank containing phosgene which resulted in eleven deaths and sent hundreds to the hospitals. Investigations were started as to where the phosgene was made and why such a quantity was on hand. Officials of the factory claimed it was for export to the United States. The Heyden Chemical Corp., New York, mentioned as one of the buyers, denied that it had any contract with the German firm. Doubt has been expressed as to the rights of this concern to make phosgene in even the limited quantities required for industrial purposes, under the terms of the Versailles treaty.

American Gum Importers' Association organizes and adopts standardized trading and arbitration rules. Objects of the new association, "shall be to serve the interests of the trade in the importation of gums and to maintain just and equitable principles among its members; to acquire, preserve and distribute valuable business information; to adjust controversies and misunderstanding between its members; and to establish uniformity of commercial relations with foreign shippers."

News of the Companies

Cosmic Color Co. is organized by L. D. Walker and S. H. Salomon, formerly identified with Morris Hermann & Co., New York, which has been taken over by United Pigment & Color Co., Newark. New company has leased the old Hermann factory in Newark and will engage in the dry color business. L. D. Walker, formerly sales manager, for the Herrmann company is president of the new organization, and S. H. Salomon, formerly superintendent of the Hermann plant, is vice-president.

Celite Co., Los Angeles, purchases plant and property of National Magnesia Manufacturing Co., Redwood City, about 25 miles south of San Francisco. Business of the latter company will be continued under its old name. Both companies started in business in 1912 and are among the largest in the world for the manufacture of diatomaceous earth products.

E. I. du Pont de Nemours & Co., Inc., begins manufacture of nitric acid by the oxidation of ammonia at its Mineral Springs, Ala., plant. This is reported to be the first commercial installation of its kind in the United States, with the exception of the experimental plant at Repauno, N. J.

Agfa Ansco Corp. begins construction of new film plant at Binghampton, N. Y. The new unit, to be completed by October 1, will be 158 feet wide and 630 feet long. Greater portion will be four stories high and a section 68 by 112 feet in size will be eight stories high.

J. T. Baker Chemical Co., Phillipsburg, N. J., is erecting a modern fire-proof building, 120 feet wide and 200 feet long for storage, preparation of stock and office occupancy. The laboratory of the company is also being enlarged and improved.

Lake Superior Corp., Sault Ste. Marie, Ont., plans to spend $12,000,000 in plant additions during next few years. Propose additions include a benzol plant, estimated to cost $250,000, construction of which will begin within three months.

Victor Chemical Co., Chicago, secures about ten acres of land at West Nashville, Tenn., upon which it plans erection of plant for manufacture phosphoric acid and kindred products. Initial works will consist of several units, reported to cost over $1,000,000.

Grasselli Chemical Co. introduces a new odorless fertilizer, known as Grasselli odorless plant food, said to be a well-balanced formula, containing five per cent. ammonia, 13 per cent. phosphoric acid and four per cent. potash.

A. E. Staley Manufacturing Co., Decatur, Ill., plans construction of new $1,000,000 administration building. Work will start within three months and the 14 story building is expected to be completed by Jan. 1, 1930.

American Agricultural Chemical Co. plans construction of new factory unit in Baltimore at estimated cost of $30,000 to replace structure destroyed by fire.

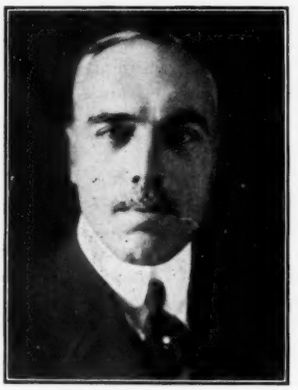
Thompson Hayward Chemical Co., Kansas City, announces a new use for potassium permanganate in destroying Algae, a scum which forms on ponds.

Monsanto Chemical Works is erecting a new three-story office building at the acid and intermediate plant, Monsanto, Ill.

Industrial Chemical Co., New York, changes its corporate name to Industrial Chemical Sales Co., Inc.

William H. Nichols, Jr., Dies

William Henry Nichols, Jr., president, General Chemical Co., and vice-president, Allied Chemical & Dye Corp., dies at his home on Centre Island, Oyster Bay N. Y., May 26, aged 54. A five-days' illness which developed into pneumonia, caused his death.



William H. Nichols, Jr.

He was born in New York, September 15, 1873, and educated at Brooklyn Polytechnic Institute and Columbia University, receiving the degree of M. S. from the latter institution in 1894. In that year he entered business with his father, Dr. William H. Nichols, now chairman of the board, Allied Chemical & Dye Corp., and former president, General Chemical Co.

He was also a director of the Corn Products Refining Co., National Aniline & Chemical Co., Nichols Chemical Co., Ltd., Semet-Solvay Co., Colvay Process Co., and Barrett Co. He was a trustee of the Central Union Trust Co. and was recently elected a member of the executive committee, National Industrial Conference Board. His clubs included the Nassau Country, Riding, Columbia University, Piping Rock, National Golf, Fishers Island, Mountain Lake, Seawanhaka, Corinthian and Chemists' Club. He was a member of the American Institute of Mechanical Engineers, the Society of Chemical Industry, and the American Chemical Society.

He is survived by his wife, the former Miss Rose Tilden, and two children, Marian and Francis.

Insecticide Manufacturers Hold Fiftieth Annual Meeting at Chicago

Insecticide & Disinfectant Manufacturers' Association holds fifteenth annual midsummer meeting at Edgewater Beach Hotel, Chicago, June 4, 5 and 6. The meeting opened with a business session on June 4 at 10.30 A. M. at which time President H. W. Hamilton, White Tar Co. of New Jersey, and Secretary Harry W. Cole, Baird & McGuire, Inc., made their annual reports.

In the committee reports which followed, chief discussion centered about that of Dr. Robert C. White, R. C. White Chemical Co., which dealt with insecticide standardization, and that of Dr. William D. Dreyfus, West Disinfecting Co., on disinfectant standardization.

Dr. J. K. Haywood, Food, Drug & Insecticide Administration, spoke at the session on June 5, and Evans E. A. Stone, Standard Oil Co., of New Jersey, addressed the group on "All Year Selling of Insecticides".

A theater party on Monday evening and a banquet on Tuesday evening featured the entertainment program arranged by the committee under the chairmanship of S. G. Scott, Williams Sealing Corp.

Produits Barytiques, manufacturers of barytes operating a plant at Merzig, France, has recently made arrangements with the Kuhlmann Company for the control of their entire output of barytes and the plant has been moved from Merzig to the Kuhlmann plant at Dieuze, reports Assistant Commercial Attache Daniel J. Reagan, Paris. Produits Barytiques in the future will devote their energies exclusively to the production of lithopone.

American Potash & Chemical Corp., New York, are enlarging their boric acid plant which will be in operation in the near future. The plant will produce all grades of technical and U. S. P. boric acid.

Methanol Production Cost Probe Asked

Costs of production investigations of synthetic methanol, fertilizer urea, ammonium sulfate and ammonium phosphate, will be instituted by the United States Tariff Commission under flexible tariff provisions of the Fordney-McCumber Act, if the Senate adopts resolutions calling for such investigations, presented by Senator King, May 8.

On November 27, 1926, the President by proclamation, increased the duty on imported methanol from 12c to 18c per gallon (CHEMICAL MARKETS, Dec. 2, 1926). At that time the price was 65c per gallon, but since then the price has dropped to 45c per gallon due to the great expansion in the industry, according to Senator King. He pointed out that this drop is more than three times as great as the 6c increase in duty that was made in 1926, and he suggests that the flexible tariff be made to work the other way and that the rate be reduced to the full extent permitted under the law.

The Senator declared that there is no production of fertilizer urea in the United States, and the production of medicinal urea, with which the former does not compete, is limited to a few hundred tons per year. Importations of fertilizer urea have risen to approximately 1,000,000 pounds a year, it is declared, and the price to the farmer has advanced 35 per cent, which is the rate of duty applied to imports of that commodity.

The duty of ammonium sulfate is $5 per ton and on ammonium phosphate $30 per ton. In 1926 the exports from the United States of the former were 181,125 tons; the imports, 8,368.

American Leather Chemists Meet

American Leather Chemists' Association holds twenty-fifth annual meeting at New Ocean House, Swampscott, Mass., June 6, 7 and 8. The first session was held June 6 at 9.30 A. M., at which time Dr. L. Balderston, president, and H. C. Reed, secretary-treasurer, presented their annual reports. The first session closed after the following committee reports: "Direct Measurement of the Plumping Power of Tan Liquors" by R. E. Porter; "Properties of Shoe Leather", by J. A. Wilson; "Cold Test of Oil", by T. A. Faust; and "Sulfonated Oils" by G. W. Priest.

The last business session was held on Friday morning, when the following papers were read: "Machines for Preparing Leather Samples", I. D. Clarke and R. W. Frey; "New International Method", Prof D. McCandlish; and "Application of Lime To Leather Industry", D. E. Washburn. The meeting closed with the election of officers followed by an executive session and council meeting.

Bridge parties, golf, motor-boating, dancing, horseback-riding and sight-seeing were among the activities presented by the entertainment program.

A third attempt to manufacture cream of tartar and tartaric acid on a commercial scale in Australia is to be made shortly by the Australian Cream of Tartar Co. (Ltd.), Paramatta, Sydney, New South Wales, according to a report from Trade Commissioner Elmer G. Pauly, Melbourne. Principal shareholders in the company are said to be an American firm and T. J. Edmonds (Ltd.), Christchurch, New Zealand. The factory is now partly equipped, and it is understood that further machinery is on the way from America.

Federal Trade Commission notifies members of the edible oil industry that they would be given until August 1, 1928, to dispose of all containers or labels which do not conform to the rules adopted by the industry at the trade practice conference held Dec. 9, 1927. No further extension will be granted in this matter.

France, Campbell & Darling, Inc., Brooklyn plant is partially destroyed by explosion and fire, May 23.

Routh Succeeds Boyer as Sales Mgr. of Mathieson Alkali at New York

The Mathieson Alkali Works, New York announces the appointment of E. E. Routh as manager of sales, following the resignation of John W. Boyer, who had occupied that position for six years. Effective at once, Mr. Routh will be transferred to the executive offices of the company in New York City.

E. E. Routh has been a member of the Mathieson organization for thirty years, with the exception of four years in college, having started as office boy at the Saltville Plant at the age of eleven. In 1909 he entered the sales department with the title of assistant manager of bicarbonate sales. At that time bicarbonate of soda was the only one of the company's products sold direct to the consumer. The selling organization was built up from four specialty men in 1909 to sixty-five men in 1913, at which time Mr. Routh was placed in charge of bicarbonate sales.

In 1920, when the company decided to market all products direct to the consumer, Mr. Routh was appointed assistant sales manager at New York. Believing that he could be of greatest service in developing sales in the South, he requested that he be put in charge of that territory. Later in 1920 he opened the Charlotte office with the title of Southern sales manager, while John W. Boyer was made assistant sales manager in his place. During the eight years Mr. Routh has held this important post, he has been charged with full responsibility for sales in the Southern states and his record in this respect has been an enviable one.

Mathieson also announces the appointment of Fred O. Tilson, who has been representing the company in the Southwest, as Southern District sales manager, with offices at Charlotte.

American Chatillon Corp., subsidiary of Lascie de Chatillon, second largest rayon producer in Italy, begins construction of new rayon plant at Rome, Ga. Plant will be constructed over a period of two years and will cost $10,000,000. Company has authorized capital of $10,000,000 consisting of 100,000 shares of cumulative preferred stock and 1,000,000 shares of common stock without par value. The program for the first two years calls for production of 12,000 pounds of rayon daily by the Viscose process and 6,000 pounds of rayon daily by the cellulose acetate progress. Production is expected to be doubled by 1930. The American corporation holds exclusive rights to cellulose acetate process, owned by Ruth Adlo Co., Inc.

Northeastern section, American Chemical Society elects following officers: Allan W. Row, chairman; David E. Worral, vice-chairman; Ernest H. Huntress, secretary; Herman G. Lythgoe, treasurer; Walter G. Bullard, editor and John A. Seaverns, treasurer of the society's paper.

American Chemical Society holds Eighth Midwest Regional Meeting at Minneapolis, June 7 to 9. The Minnesota section acted as host and the sessions were held jointly with the American Association of Cereal Chemists and the Association of Operative Millers.

Associated Dyeing & Printing Corp., Paterson, is formed to acquire four companies in the dyeing and printing branch of the silk industry, Royal Piece Dye Works, Inc., Colt Dye Works, Inc., Cramer & King Co. and Uhlig Piece Dye Works, Inc.

The Financial Markets

Anglo-Chilean 1927 Income $1,129,955; Break With Association Beneficial

Cappelen-Smith Report Reveals Sharp Increase in Sales Resulting From Independent Selling—Net Income Surplus at $494,298—Anticipate Very Good Season.

Net operating income of Anglo-Chilean Consolidated Nitrate Corp. and subsidiaries for year ended Dec. 31, 1927, amounted to $1,129,955. Net income for the period allotted to surplus account amounted to $494,298. Under the heading of "consolidated surplus account" the corporation's deficit on December 31, 1926, amounted to $2,243,319, while on the corresponding date of 1927 its total was $6,141,104.

According to the annual report of E. A. Cappelen Smith, president, during the year the corporation terminated its arrangement with the monopoly known as the Association of Producers of Chilean Nitrate, which allocates sales tonnage and prices to its members. The break with the producers' association resulted in an increase in sales in consuming markets, with every indication that both sales and receipts in 1928 in a free market will reach satisfactory levels.

"The nitrate season 1927-1928 is now sufficiently advanced so that the nitrate consumption in the various consuming countries can be predicted with reasonable accuracy," the report says.

"The impetus given to sales and consumption of Chilean nitrate by the adoption of the policy of free sale appears by contrasting the figures for 1927-1928 with the two previous seasons of centralized sales with fixed prices and restriction of production."

Union Carbide Earns $2.25 In First Quarter on $6,004,132 Profit

Net profit of Union Carbide & Carbon Corp. after all charges in the first quarter of this year was $6,004,132, equivalent to $2.25 a share on 2,659,733 shares of no par common stock. This is a gain of $657,803 over the $5,346,329 or $2.01 a share earned in the corresponding quarter last year. It is an increase of 12%, and makes a new high record for this part of the year.

While the showing in the first quarter is not an infallible indication of how business will run during the remainder of the year, the activity in several of Carbide's most important departments, together with the steady growth from new products, points to a new high record in earnings for 1928, according to the "Wall St. Journal."

An increase of 10% over the whole year would bring Carbide's net this year up to around $28,000,000 against $25,340,006, or $9.52 a share, earned last year.

The following table shows the impressive gain in earnings made in the last six years:

	Net Profit	*A Share*
1927	$25,340,660	$9.52
1926	24,142,606	9.08
1925	20,021,327	7.52
1924	16,771,322	6.30
1923	16,204,414	6.09
1922	11,716,114	4.40

Union Carbide & Carbon Corp. carries its plants and property at $180,957,975 against $158,553,543 in 1925, an increase of about $22,000,000. Depreciation reserves total $36,493,029. Cash on hand at the end of 1927 totaled $16,267,387 against $3,680,804 accounts payable.

The common stock is selling currently at 150 against a high of 162¼ and a low of 136⅛ this year. It pays $6 a share in dividends annually.

Certain-teed 1st Quarter Income $3,042

Certain-teed Products Corp. reports for quarter ended March 31, 1928, net income of $3,042 after depreciation and interest, equivalent to 7 cents (par $100) earned on 41,200 shares of 7% first preferred stock. This compares with $342,797 or 72 cents a share on 307,000 no-par shares of common stock, after allowing for dividend requirements on first and second preferred stocks in first quarter of 1927.

Income account for quarter ended March 31, 1928, compares as follows:

	1928	1927	1926	1925
*Gross oper. profit	$877,043	$1,272,049	$1,258,396	$1,232,189
Other income	39,941	8,508	218	3,059
Total income	$916,984	$1,280,557	$1,258,614	$1,235,248
Exp. bank int, etc	883,004	884,260	877,799	780,947
Bond int	30,938	.....	.....	132,600
Fed. taxes	.....	53,500	48,900	38,000
Net profit	$3,042	$342,797	$331,915	$283,701

*After depreciation.

Geo. M. Brown, president, told stockholders that while the first quarter of the year is usually the least favorable period, a satisfactory volume was secured but very low selling prices prevailed, resulting in a showing not satisfactory, compared with recent years.

Casein Co. Annual Earnings at $7.98

Report of Casein Co. of America (Delaware) for year ended December 31, 1927, shows net income of $169,170 after charges equivalent to $7.98 a share (par $100) earned on 21,199 shares of stock. This compares with $150,408 or $7.09 a share in 1926.

Casein Co. of America (New Jersey) and subsidiaries, controlled by Casein Co. of America (Delaware) reports for year ended December 31, 1927, net income of $228,446 after depreciation, etc., against $343,712 in previous year.

Statement of Casein Co. of America (Delaware) for year ended December 31, 1927, compares as follows:

	1927	1926	1925	1924
Net inc aft charges	$169,170	$150,408	$131,393	$126,116
Dividends	169,562	148,365	126,954	126,819
Deficit	$392	*$2,043	*$4,439	$703
P & L surp	212,334	212,726	210,682	205,519

*Surplus.

du Pont Co. Extra Dividend

E. I. du Pont de Nemours & Co. declares an extra dividend of $3 and an additional extra of 50 cents on the common, in addition to the regular quarterly dividends of $2.50 on the common and $1.50 on the debentures. The $3 extra dividend is payable July 5, the 50 cents extra and regular quarterly June 15, all to stock of record June 1. The debenture dividend is payable July 25 to stock of record July 10.

In declaring extra $3 dividend on common stock du Pont is passing along to its stockholders the $2 extra dividend recently declared by General Motors, the du Pont holdings of General Motors being 1½ shares for each share of du Pont stock outstanding. The 50 cents extra dividend is payable from the company's own operations.

Canadian Celanese Position Good

Toronto, Ont.—Annual report of Canadian Celanese Ltd., Drummondville, Que., shows company to be in a strong financial position. As production on a commercial scale did not start until the end of the year the report does not contain a profit and loss statement. Total assets are shown at nearly $11,000,000 as compared with $8,350,000 at the end of 1926. Camile Dreyfus, president, stated that the company had completed its financial arrangement and secured sufficient capital to carry through its program to a successful issue. The year was primarily one of construction at Drummondville. All buildings were completed by the end of the year, except the plant for the production of cellulose acetate, which has since been practically finished. Fabrication with yarns imported, started towards the middle of 1927, and there are now 120 looms operating, which number will be increased as rapidly as labor permits. The earlier stages have largely been occupied in the development of fabrics suitable for the Canadian market and the factory is now turning out satisfactory standard cloths.

International Match 1927 Profit Up

Report of International Match Corp. and constituent companies, for year ended December 31, 1927, shows net profit of $16,618,887 after federal taxes, depreciation, interest, etc., equivalent to $7.07 a share earned on combined 1,350,000 shares of $35 par value participating preference stock and 1,000,990 shares of no-par common stock. This compares with $14,586,272 or $6.20 a share on combined participating preference and common stocks in 1926. After $2.60 a share annually has been paid on participating preference and common stocks, both stocks share equally in any further dividends.

Standard Chemical Co. Ltd., Toronto, reports gross profits for fiscal year ended March 31, 1927, of $212,421 which compares with $194,979 during the previous year. Net profit after deductions for interest, income tax, depreciation, etc., amounted to $139,667. Sales totaled $1,781,243, an increase of $146,586 over the previous year. Company declared dividend of $2 per share for the year. During the year four unprofitable plants were dismantled leaving six which continue in operation.

Committee on stock list, New York Stock Exchange admits following securities to the list:

Archer-Daniels-Midland Co., 15,000 additional shares of no par common stock, making total amount authorized to be listed 215,000 shares.

Certain-teed Products Corp. $6,079,200 preferred stock, with authority to add $2,107,300 of said preferred stock on official notice of issuance and payment in full, making total amount authorized to be listed $8,186,500.

American Agricultural Chemical Corp. calls $2,500,000 of 7½% bonds for redemption August 1, thereby reducing the total outstanding to $10,000,000. Last February $6,600,000 in bonds was called, and the sinking fund further reduced the amount outstanding. As of June 30, 1927, there were outstanding $19,707,500 of the bonds.

International Printing Ink Co. is incorporated at Cincinnati, with capital of $10,000,000 in six per cent. preferred stock and 400,000 shares of no par common, to take over the Ault & Wiborg Co. and the Queen City Printing Ink Co., both of Cincinnati, and Philip Ruxton, Inc., New York.

International Salt Co., Philadelphia, decides to omit quarterly dividend ordinarily paid July 1. Distributions at the rate of six per cent. (1½ per cent. quarterly) had been made on the outstanding $6,077,130 common stock (par $100) from 1925 to April 1, 1928 inclusive.

International Paper Co. Has Net of $1,657,438 for First Quarter

International Paper Co. and subsidiaries report for quarter ended March 31, 1928, net profit of $1,657,438 after depreciation, interest and federal taxes, equivalent after dividend requirements on Canadian Hydro-Electric Corp., Ltd., 6% first preferred stock, to $1.61 a share earned on 911,388 shares (par $100) of 7% preferred stock outstanding at end of the quarter. This compares with net profit of $994,223, equivalent after International Paper Co. 6% and 7% preferred dividends, to 82 cents a share on 500,000 no-par common shares outstanding at end of first quarter of 1927.

Consolidated income account for the quarter ended March 31, 1928, compares as follows:

	1928	1927	1926
Total revenue	$4,389,127	$3,174,580	$1,787,805
Depreciation	1,367,807	953,465	859,407
Amortization	74,729	79,512	37,409
Interest	1,169,153	1,087,380	629,281
Federal taxes	120,000	60,000	.....
Net income	$1,657,438	$994,223	$261,708
Can. H. E. pref'd divs	187,500	.....	.....
Preferred dividends	1,578,433	583,680	549,516
Common dividends	599,992	250,000	.....
Deficit	$708,487	*$160,543	$287,808

*Surplus

Swedish Match Co. in report for year ended December 31, 1927, shows net profit of 40,436,616 kroner after expenses, etc., comparing with 32,326,461 in previous year. Outstanding stock consists of 90,000,000 kroner Class A and 180,000,000 kroner Class B.

Income account for year 1927 compares as follows (figures in kroner):

	1927	1926	1925	1924
Gross	42,832,517	34,193,675	30,330,633	20,789,541
Exp. etc.	2,395,901	1,867,214	1,853,859	1,657,478
Net profit	40,436,616	32,326,461	28,476,774	19,132,063
Dividends	18,000,000	18,000,000	14,400,000	10,800,000
Reserves	1,000,000	.....	458,919	.....
Surplus	21,436,616	14,326,461	13,617,855	8,332,023

Salar Del Carmen Nitrate Co., Ltd., reports for 1927 loss on trading, less transfer fees, amounts to £3,302; and after adding stoppage expenses £8,339; re-opening expenses £8,417; Chilean taxes £1,215; amortization of grounds and depreciation of plant and machinery £3,097; London office charges £3,812; interest and discount £791; and interest on 6½ per cent. notes £9,750. Result is loss for year of £38,724 which, added to balance brought forward of £21,126, makes a debit on profit and loss account of $59,850.

Freeport Texas Sulphur Company reports for quarter ended February 29, 1928, net income after all charges of $405,160, equivalent to 55 cents a share on 729,844 shares of no par common stock. This compares with $718,852, or 98 cents a share for the corresponding period of last year.

Spencer Kellogg & Sons, Inc., Buffalo, announces the sale through Baker, Trubee & Putnam, Inc., of that city, at $157 a share of 13,000 shares of capital stock, par $100. Stock included in this offering is part of the issue already outstanding, and does not represent new financing by the company.

National Distillers Products Co. reports for quarter ended March 31, 1928, loss of $43,032 before depreciation, amortization of brands, etc. This compares with loss of $4,794 for corresponding quarter of last year.

New Jersey Zinc First Quarter Income Below 1927 at $1,649,027

New Jersey Zinc Co. for quarter ended March 31, 1928, reports net income of $1,649,027 after taxes, depreciation, depletion, etc., equal to $3.36 a share earned on 490,816 shares of stock. This compares with $1,683,668 or $3.43 a share in preceding quarter and $1,769,480 or $3.60 a share in first quarter of 1927.

Income account for quarter ended March 31, 1928, compares as follows:

	1928	1927	1926	1925
*Total income	$1,649,027	$1,769,480	$1,723,896	$1,678,326
Interest	.....	.....	40,000	40,000
Net income	$1,649,027	$1,769,480	$1,683,896	$1,638,326
Dividends	981,632	981,632	981,632	981,632
Surplus	$667,395	$787,848	$702,264	$656,694

*Includes dividends from subsidiaries and after taxes, depreciation, depletion etc.

U. S. Gypsum Co., Chicago, declares regular quarterly dividends of 40 cents on common and $1.75 on preferred, payable June 30 to stock of June 15.

Directors also approved plans for erection of plants in Philadelphia, Chicago and Detroit in conformity with plans under consideration.

Celanese Corp. of America declares initial quarterly dividend of 1¾ per cent on prior preferred stock, payable July 2 to stock of record June 15, and regular semi-annual dividend of 3½ per cent. on first participating preferred, payable June 30 to stock of record June 15.

Proctor & Gamble Co., Cincinnati, purchases properties and physical assets of Globe Soap Co., that city. Purchase price was $2,280,000 in the 6 per cent. preferred stock of purchasing company.

Columbian Carbon Earnings Up

Columbian Carbon Co. and subsidiaries report for quarter ended March 31, 1928, net income of $670,835 after depreciation, depletion and federal taxes, equivalent to $1.66 a share earned on 402,131 shares of no par stock. This compares with $538,188 or $1.33 a share in first quarter of 1927.

Consolidated income account for quarter ended March 31, 1928, compares as follows:

	1928	1927	1926	1925
Net aft fed tax	$1,031,338	$911,876	$1,074,933	$973,682
Depr. and depl.	360,503	373,758	380,051	413,264
Net inc.	$670,835	$538,118	$694,882	$560,418
Dividends	402,131	402,131	402,016	402,121
Min. divs. of subs.	.....	18,375	24,500	.....
Adj. prev. years	.....	.....	.....	23,078
Surplus	$268,704	$117,612	$268,366	$135,219

Lever Bros., Ltd., resumes dividends on ordinary shares by a declaration of one of 5 per cent. Company reports profit for year of £5,390,000 after £454,000 debenture interest and provision for depreciation. There was placed £273,000 to reserve and £102,000 was carried forward.

By-Products Coke Corp. declares an extra dividend of 75 cents per share in addition to the regular quarterly dividend of 50 cents per share on the common stock, no par value, payable June 20 to holders of record June 5.

Mathieson Alkali Works, Inc., declares regular quarterly dividend of $1.50 on common and $1.75 on preferred, both payable July 2 to stock of record June 18.

American Metal Co., Ltd., New York, calls outstanding 7 per cent. preferred stock for redemption on Sept. 1 at 110 and dividends.

The Industry's Bonds

1928 May 31 High	1928 May 31 Low	1928 High	1928 Low	1927 High	1927 Low	Sales In May	Sales Since Jan. 1928	ISSUE	Date Due	Int. %	Int. Period	Orig. (1) Offering $
								NEW YORK STOCK EXCHANGE				
105	104⅛			105	99	258	1,275	Am. Agri Chem	1941	7½	F. A.	30,000
102	101½			103⅛	100½	308	1,288	Am. Smelt & Refin "A" 5%	1947	5	A. O.	...
108⅛	108⅛			108⅛	107½	62	461	Am. Smelt & Refin "B" 6%	1947	6	A. O.	...
105⅛	105⅛			105⅛	103⅛			Anaconda Copper Mng	1953	6	F. A.	100,000
...	...			116⅛	106½			Anaconda Copper Mng 7%	1938	7	F. A.	50,000
103	103			97	87	421	2,483	Anglo Chilean	1945	7	M. N.	16,500
...	...	...	...	103⅛	100½	46	409	Atlantic Refin	1937	5	J. J.	15,000
...	...	...	...	102⅛	100½	18	107	By product Coke	1945	5½	M. N.	8,000
...	...	...	...	104½	101½	30	69	Corn Product Refin	1934	5	M. N.	10,000
111	110½	...	...	111½	106	222	1,082	General Asphalt	1939	6	A. O.	5,000
...	...	...	...	91½	81⅛	19	87	Int. Agric. Corp	1932	5	M. N.	30,000
...	...	...	...	...	...	41	190	Int. Agri. Corp. stamped, extended	1942	5	M. N.	7,020
...	...	...	...	133½	104	246	2,302	Liq. Carbonic Corp	1941	6	F. A.	5,000
116⅛	115	...	...	102	98½	838	3,138	Montecatini	1937	7		
96⅛	96½	...	...	95⅛	92½	21	506	Ex War	1937	7		
...	...	...	...	115	113⅛	25	55	People's Gas & Coke	1943	6	A. O.	10,000
106½	105⅛	...	...	105½	101½	26	742	Refunding	1947	5	M. S.	40,000
103½	103⅛	...	...	104½	101⅛	922	2,292	Standard Oil N. J.	1946	5	F. A.	120,000
112⅛	112⅛	...	...	101⅛	98½	114	288	Tenn. Cop. and Chem	1941	6	A. O.	3,000
...	...	...	...	95½	91	18	52	Va. Iron C. & C				
								NEW YORK CURB				
...	...	...	...	99½	95⅛		196	Agri. Mtge. Bk. of Col 46	1946	7	J.O.	...
...	...	...	...	99⅛	96		352	Agri. Mtge. Bk. of Col	1947	7	J.J. 15	3,000
102½	102½	103	101½	105⅛	105	391	2,095	Alum. Co. of Am 52	1952	5		
...	...	...	...	101⅛	99		609	American Cyan	1942	5	A. O.	5,000
100½	100⅛	101⅛	101⅛	102½	101½	117	581	Anaconda Cop	1929	6	J. J.	25,000
100	100	101⅛	99½	99⅛	95⅛	305	1,521	Koppers Gas and Coke	1947	5	J. D.	25,000
102⅛	102⅛	103⅛	101½	103	98	41	103	Natl. Dist. Prod	1935	6½	J. D. 15	3,500
96	95½	98⅛	95½	98	95⅛	456	2,617	Shawinigan W & P	1967	4½		
...	...	...	...	100⅛	100	11	30	Silica Gel	1952	6½		
98⅛	98	100	98	99⅛	96	209	509	Solvay Am. Invest. Corp	1942	5	M. S.	15,000
100⅛	100	101⅛	99⅛	100⅛	99	261	1,332	Swift & Co	1932	5	A. O.	50,000
...	...	...	...	99	90		202	U. S. Ind. Alc	1941	6½	M. N.	...
102⅛	102⅛	104	102½	103⅛	98⅛	8	240	Westvaco Chlorine Prod	1937	5½	M. S.	2,500
								BOSTON				
103	102⅛	103	101⅛	102⅛	101	146	208	Swift and Co	1944	5	J. J.	50,000
								CHICAGO				
102	102⅛	...	...	103⅛	101⅛	3	37	Swift and Co	1944	5	J. J.	50,000
...	...	...	...	101⅛	99	...	...	Westvaco Chlorine Prod	1937	5½	M. S.	2,000

Devoe Issues Balance Class A Stock

Devoe & Reynolds, Inc., issues remaining 15,000 shares of class A common stock authorized, in connection with purchase of Peaslee, Gaulbert Co., Lexington, Ky. (CHEMICAL MARKETS May 1928). Stock will be sold to employees of combined companies under partial payment plan similar to those of the past and no other financing will be necessary, according to statement of E. S. Phillips, president.

Issuance of this additional A stock will bring outstanding issue to 110,000 no-par shares. Remaining capitalization comprises $1,810,700 of $100 par 7% cumulative first preferred; $935,500 of $100 par cumulative second preferred and 40,000 shares of no-par B stock.

Nichols Copper Co. declared $1 dividend on common, payable June 15 to stock of record May 24 and regular quarterly dividend of 1¾% on preferred, payable July 1 to stock of record June 9.

United States Industrial Alcohol Co. declares regular quarterly dividend of $1.75 on the preferred stock, payable July 16 to stock of record June 30.

Commercial Solvents Corp. declares quarterly dividend of $2.00 per share on capital stock payable July 2 to stock of record June 20.

Imperial Chemical Industries, Ltd. Increases its Capital to £7,000,000

Imperial Chemical Industries, Ltd., increases authorized capital by £5,000,000, to £7,000,000.

Profit of Imperial Chemical Industries, Ltd., for year ended December 31, 1927, was £4,567,224 before taxes and reserves. After deducting of £125,330 for income taxes and £408,976 for reserves, net profit was £4,032,918. Dividend on preference shares amounted to £1,145,501 and interim dividend on common to £968,171, leaving a balance of £1,919,246 available for 32,237,843 common shares of £1 each and 9,548,210 deferred shares of 10s each.

A final dividend of 5% on the common and a dividend of 1¾% on the deferred stock were declared.

Directors state that the large expenditures during 1927 for new capital works were financed out of resources of subsidiary companies. Realization from investments for this purpose resulted in capital profit of £1,000,000, which is not included in the Imperial Chemical profits but was retained in reserves of subsidiary companies.

Union Carbide & Carbon Corp. declares dividend of $1.50 per share on outstanding capital stock, payable July 2, 1928, to holders of record June 1.

The Industry's Stocks

1928 May 31 Bid	Asked	1928 High	Low	1927 High	Low	Sales In May	Since Jan. 1, '28	ISSUES	Par $	Shares Listed	An. Rate	Earnings $-per share-$ 1927	1926
								NEW YORK STOCK EXCHANGE					
69½	70	74⅞	60½	199½	134½	104,100	212,000	Air Reduction	No	223,445	$5.00	9 mo. 12.63	10.83
164½	165½	173½	146	169½	131	195,300	822,400	Allied Chem. & Dye	No	2,178,109	6.00	10.02	9.79
122½	124½	125½	122	124	120	4,410	12,070	7% pfd	100	392,849	6.00		61.28
21⅛	21⅞	23¼	15⅛	21½	8½	53,500	195,320	Am. Agricultural Chem.	100	333,221	2.00	Nil	...
73	73½	75	55⅛	72½	28½	47,200	217,720	pfd	100	284,552	1.50		3.59
92⅛	92½	95⅛	70½	77⅛	43⅜	1,311,100	4,729,860	American Can	25	2,473,918	2.00	4.11	4.38
143½	144	147	136½	141½	126	3,300	25,760	pfd	100	412,333	7.00	31.66	33.31
101½	102½	111½	56⅜	72½	20½	213,900	1,477,320	American Linseed	100	167,500	...		...
...	...	...	...	92½	46⅜	2,400	49,560	pfd	100	167,500	7.00	7 mo. 6.00	.62
47½	47½	49½	39	49⅜	36½	79,000	188,720	American Metal Ltd.	No	594,278	4.00	9 mo. 3.64	3.88
114	115	127	110½	113½	108	1,240	21,996	pfd	100	50,000	7.00	9 mo. 50.27	53.15
194½	195	200½	169	188⅜	132⅜	306,760	1,377,080	Amer. Smelt and Refin.	100	609,980	7.50	6 mo. 19.64	23.38
135	136	142	131	133	119½	6,100	26,900	pfd	100	500,000	7.00	6 mo. 17.01	35.52
28½	28⅞	32⅜	6⅜	10½	5½	172,900	661,600	Amer. Zinc & Lead	25	193,120	...	9 mo. Nil	...
88	90½	98	40	51½	35	26,100	514,800	pfd	25	96,560	...	9 mo. 2 31	...
71½	71⅞	74⅜	54½	60½	41½	1,070,600	3,696,920	Anaconda Copper Mining	50	3,000,000	3.00		4.74
76	77½	97	55½	63	38	96,100	169,780	Archer Dan. Mid.	No	200,000	...	5.76	6.35
114½	115	115½	112⅜	112½	106	220	1,620	pfd	100	43,000	7.00	37.31	35.23
76	83	...	...	70	56½	2,600	31,400	Atlas Powder Co.	No	260,393	4.00	5.75	7.04
108½	109	110½	102½	107	98	710	2,658	pfd	100	90,000	6.00	6 mo. 22.71	26.46
127	128	139⅜	95½	131⅜	104	151,900	598,680	Atlantic Refining	100	500,000	...	9 mo. Nil	11.24
9⅜	9½	10	4¼	5⅛	3⅛	155,300	160,220	Butte Copper & Zinc	5	600,000	.50	9 mo. 0.09	.32
14½	15	16⅛	9	11⅛	7⅛	127,500	188,960	Butte Superior Mng.	10	290,197	2.00	9 mo. 0.23	1.71
76½	77	84½	65	92½	66	5,700	36,320	By Prod. Coke	No	189,931	3.00	9 mo. 4.84	6.00
3½	4½	5⅛	1½	2⅛	1½	172,600	374,060	Calla Lead & Zinc	10	723,355	...	9 mo. 0.08	...
24½	24⅝	25½	20½	24½	14½	264,600	592,320	Calumet & Hecla	25	2,005,502	1.50	9 mo. 0.29	.75
48⅛	49	63½	40½	55⅛	42	248,000	652,420	Certainteed Prod.	No	307,000	4.00	9 mo. 6.07	6.02
97	99	...	...	118½	106	500		1st pfd	100	43,000	7.00	9 mo. 56.80	54.30
43½	44	45½	37⅛	44⅛	33½	247,700	753,830	Chile Copper	25	4,435,595	2.50	6 mo. 0.62	2.65
88½	90	...	...	101½	66½	18,100	82,640	Columb Carbon	No	204,131	4.00	9.41	6.51
169½	170	189½	153½	203	145	16,300	275,100	Commercial Solvents	No	108,861	4.00	9 mo. 9.24	14.13
104½	105	114½	80½	86⅞	58½	149,200	997,560	Cont. Can	No	620,000	6.00	7 mo. 7.54	6.36
125½	126½	...	...	126	120	360	1,690	pfd	100	52,930	7.00	7 mo. 86.82	70.55
76½	77	82⅞	64⅛	68	46½	93,300	1,079,000	Corn Products	25	2,530,000	2.00	9 mo. 4.01	4.03
144½	145	...	...	142½	128	2,000	8,100	pfd	100	250,000	7.00	9 mo. 47.62	47.73
49½	49⅞	57½	34⅜	48½	26½	193,700	625,560	Davison Chem.	No	310,000	...		...
53½	54	61	40	42⅞	36½	11,600	242,900	Devoe & Rayn A	No	95,000	2.40	(†) 5.47	5.22
116	118	120	108	114½	101	500	1,990	1st pfd	100	18,096	7.00	6 mo. 53.23	49.70
118⅛	119⅜	...	...	118	105½	8,000	31,640	Dupont deb.	100	795,212	6.00	9 mo. 57.04	52.51
397½	398	400⅛	310	343⅛	168	35,600	323,460	Dupont de Nemours	No	2,661,658	9.50	15.45	13.98
180	181⅛	186	163	175½	126½	54,300	166,240	Eastman Kodak	No	2,055,340	5.00		9.50
130	132	...	...	131½	119½	100	772	pfd	100	61,657	6.00		322.11
125	140	...	...	97	75½	2,300	3,500	Fed. Mining & Smelting	100	50,400	...	23.36	35.95
72	77½	76⅜	66	71½	46½	191,800	1,326,120	Fleischmann	No	4,500,000	3.00	4.30	4.08
67½	68	109½	65⅛	106½	34	262,100	2,036,820	Freeport Texas	No	729,733	4.00	9 mo. 5.24	2.48
85½	86½	94⅜	71½	96⅜	65	174,000	1,313,500	General Asphalt	100	243,550	...	6 mo. 5.00	8.11
125	135	...	...	144½	107½	3,900	29,500	pfd	100	68,742	5.00	6 mo. 4.20	27.58
91	91⅜	105⅜	71	78⅜	42	149,400	1,820,920	Gold Dust	No	318,586	...	6.20	3.01
72	73	73	64½	70⅜	43½	29,170	84,810	Household Prod.	No	575,000	3.50	6 mo. 5.22	5.22
19½	19⅜	20½	13	16⅜	6⅜	78,200	183,400	Intern. Agri.	No	441,695	...	Nil	1.60
76	77	79	48⅜	65	33	13,400	56,000	pfd	100	100,000	...	Nil	14.06
93½	94¼	99½	73⅜	89½	38½	968,100	6,526,100	Intern. Nickel	25	1,673,374	2.00	9 mo. 2.26	3.00
114½	115	...	...	110	103½			pfd	100	89,126	6.00	9 mo. 46.94	62.35
56	58½	69	49½	75	63	4,650	7,138	Intern. Salt	100	60,771	6.00	6 mo. 2.64	8.35
123½	124½	134	111½			151,200	557,560	Johns-Manville	No	750,000		4.69	4.34
72½	73	...	...	78½	45	73,900	387,100	Liquid Carbonic Corp.	No	125,000	3.60	5.90	11.34
51	52½	57⅜	46	58⅜	43	5,900	28,940	Mac and Forbes	No	376,748	2.00	9 mo. 2.36	3.30
125½	127	137⅞	118½	132¼	82	24,400	191,160	Matheison Alk.	No	147,207	6.00	9 mo. 11.27	9.88
120½	123	...	...	120	103	110	700	pfd	100	24,750	7.00	9 mo. 74.06	67.85
21½	21½	22	17½	20½	13	8,900	207,600	Miami Copper	5	747,114	1.50		1.52

1928 May 31 Bid	1928 May 31 Asked	1928 High	1928 Low	1927 High	1927 Low	Sales In May	Sales Since Jan. 1, '28	ISSUES	Par $	Shares Listed	An. Rate	Earnings $-per share-$ 1927	Earnings $-per share-$ 1926
38¼	39	58¼	35¼	56¾	17	30,600	356,940	National Dist. Prod	No	167,651	...	9 mo. 0.54	...
58	58½	71¾	55	69¾	43	2,800	19,460	pfd	No	109,795	...	9 mo. 1.62	...
125½	127½	136	123	202¾	95	5,000	46,980	National Lead	100	206,554	8.00	10.25	35.33
147	...	147½	139	139½	131½	1,300	7,120	pfd A	100	243,676	7.00		
120½	...	...	...	116½	104½	400	6,480	pfd B	100	103,277	6.00		
31	31½	37	22¾	27¼	19½	25,000	355,600	Penick & Ford	No	433,773	...	9 mo. 2.04	1.37
174	175	189½	157	168¾	126	16,100	174,780	Peoples Gas Chi	100	60,000	8.00	11.15	11.04
44½	45	49	37	43½	36	128,500	200,100	St. Joseph Lead	10	1,951,517	2.50	1.85	4.21
45½	45½	49	37¾	41½	35½	1,077,900	2,372,920	Standard Oil Co of N. J	25	24,262,532	1.00		5.01
36¾	36¾	41½	28¾	34½	29¾	1,652,900	3,034,080	Standard Oil Co. of N. Y	25	17,023,928	1.60	0.90	1.9 4
15½	15¾	16¾	10½	13½	8½	172,200	319,100	Tenn. Cop. & Chem	No	794,624	1.00		1.31
71½	71¾	80½	68½	81¾	49	382,400	2,876,040	Texas Gulf Sulfur	No	2,540,000	4.00	4.76	3.69
153½	153¾	162½	136½	154½	98¾	151,200	1,083,200	Union Carbide	No	2,827,470	6.00	9 mo. 6.64	9.07
9½	9¾	...	...	10	3½			United Dyewood	100	139,183	7.00	9 mo. Nil	...
62	64½	...	...	49	36½	150	1,310	pfd	100	39,500	...	6 mo. 2.72	3.88
112½	113	122½	102½	111¾	69	74,300	635,880	U. S. Ind. Alc	100	240,000	5.00	6.00	7.04
120½	123½	...	...	121	107½	900	2,470	pfd	100	60,000	7.00		35.16
50½	51½	53	44½	48¾	26½	19,700	102,090	Va. Car. Chem Com. 6% pfd	100	213,350	...		6.73
95½	96½	...	...	91	73	2,000	20,290	7% pfd	100	142,910	7.00		17.54
								NEW YORK CURB					
....	....	31½	22¾	31¾	30	9,100	51,620	Acetol Prod	No	60,000			
....	....	197½	120	145½	67¾	29,600	91,970	Aluminum Co. of America	No	1,427,625	...	4.02	...
....	....	110½	105½	43½	25	4,300	112,740	"B"	20	263,772	1.20	3.09	3.49
....	....	23¾	13	18½	3¾	44,900	98,040	Amer. Rayon Prod	No	110,000	1.00		Nil
....	....	41½	25½	29	11	30,700	118,240	Amer. Solvents & Chem. pfd	No	160,000	...		Nil
....	....	39½	26½	31½	14	40,800	78,000	Anglo Chile Nitrate	No	1,756,750	...	Loss	Loss
....	....	...	...	43½	22			Canad. Ind. Alc	No	800,000	1.28	2.49	2.63
....	....	226	156	...	...	410		Casein Co					
....	....	103	70½	117	44	32,800	163,140	Celanese Corp of Am	No	1,000,000	...	1.91	1.80
....	....	...	...	129¾	60	1,200	17,400	Celluloid Co	100	70,980	...		...
....	....	...	...	133½	113½	500	5,290	1st pfd	100	24,551	...		...
....	....	...	...	91	84	450	3,980	Celotex pfd	No	164,730	3.00		5.06
....	....	...	...	126	76½			Chesebro Mfg Co	25	120,000	4.00		8.06
....	....	24½	20½	38½	24¾	10,700	30,820	Courtaulds	£1	£12,000,000	16¼%		18.18
....	....	245	192	202	180	50	958	Hercules Powder	100	147,000	16.37	9 mo. 16.37	18.18
....	....	...	...	121	114	170	780	pfd	100	111,392	7.00	28.04	30.82
....	....	...	...	10	7½	1,800	9,580	Heyden Chem	10	150,000	...		0.32
....	....	26	17¾	24½	4½	151,800	556,480	Indus. Rayon "A"	No	452,544	...		2.27
....	....	...	...	39	37½	600	7,960	Monsanto Chem	No	110,000	2.50	6.11	5.60
....	....	...	...	194½	178			N. J. Zinc	100	490,816	8.00	14.34	14.34
....	....	99½	85½	112	60½	8,300	30,940	Palmolive Peet	No	1,500,000	...	5.04	2.86
....	....	...	...	105½	84	700	2,055	Penn Salt	50	150,000	5.00	8.09	6.08
....	....	...	...	14½	8	2,000	10,980	Pyrene Mfg	10	223,158	2%	6.42	2.38
....	....	287	222½	335	160	740	2,390	Royal Baking Powder					
....	....	111½	104	110	100	150	900	pfd					
....	....	...	...	68½	44	250	1,450	Sherwin Williams	25	594,445	3.00	6.42	5.59
....	....	29	17	20½	13½	22,000	67,920	Silica Gel	No	600,000	...		...
....	....	835¾	70½	81½	64½			Standard Oil Co. of Indiana	25	9,136,618	...		6.03
....	....	...	...	12	5	2,700	8,600	Snia Viscosa	150 lire	6,666,666⅔	.72		6.86
....	....	23½	16	21	13¾			Swan & Finch	25	34,458	.87½		...
....	....	137	125	130	115½	9,000	35,180	Swift & Co	100	1,500,000	8.00	8.13	10.43
....	....	630	450	499	145	2,390	70,058	Tubize "B"	No	78,868	...		...
....	....	99¾	70	110½	82½	8,425	19,140	U. S. Gypsum	20	687,875	8%	10.10	11.35
....	....	85¼	67	77	50½	46,600	82,800	Wesson Oil and Snow	No	300,000	4.00	5.26	8.71
								CLEVELAND					
....	....	104	120	115	74½			Cleve-Cliff Iron	No	400,000	4.00		
				108	70			Dow Chem	No	100,000	4.00		...
				106½	100			pfd	100	30,000	7.00		...
....	....	25½	21½	21¾	15½			Glidden	No	400,000	2.00	3.03	3.41
....	....	101¼	96	100	84			pfd	100	71,922	7.00	6 mo. 23.91	25.98
....	....	146	129½	135	127			Grasselli	100	215,704	...	11.27	10.24
....	111	105½	...	109½	102½			pfd	100	123,742	6.00		23.68
....	....	25	18	24¼	4½			Indus. Rayon "A"	No	452,544	...		2.27
....	....	76½	65¼	70	44			Sherwin Williams	25	594,445	3.00	6.42	5.59
....	....	109½	106	109	104			pfd	100	125,000	6.00		...
....	....	27¼	35	...	...			Wood Chemical Prod. "A"	No	20,000	2.00		...
								PITTSBURGH					
...	....	22	21	33½	18	520	1,511	Am. Vitrified Prod	50	70,000	7.50	2.95	2.19
								CHICAGO					
....	....	69	49	86	53			Celotex	No	170,456	3.00	3.31	
....	....	102	80	92	82			pfd	100	52,534	7.00		
....	....	58	38½	39	37			Monsanto Chem	No	110,000	2.50	6.11	
....	....	136	124½	130	115½			Swift & Co	100	1,500,000	8.00	8.13	10.43
				152½	99			Union Carbide	No	2,827,470	6.00	9 mo. 6.64	9.07
....	....	99¼	69	110¼	82			U. S. Gypsum	20	687,875	8%	10.10	11.35
								CINCINNATI					
...	....	128	125	125½	113½	50	165	Fleishmann pfd	100	12,295	6.00	1,589.49	1,501.80
...	....	300	249	250	177	3,992	13,096	Proc. & Gam	20	1,250,000	4.75		9.17
								BOSTON					
21½	25½	23¾	20¼	17¾	14½	10,480	59,874	Calumet & Hecla	25	2,005,502	1.50	9 mo. 0.29	.75
130½	131	133	124½	130½	115	1,696	7,583	Swift & Co	100	1,500,000	8.00	8.13	10.43
								ST. LOUIS					
...	....	121	118½	...	...	18	337	Certainteed Prod. pfd	100			56.80	
...	....	47	43	36	36	215	1,146	South Acid and Sulfur Co	No	52,000	3.00		...
								PHILADELPHIA					
...	....	109½	92	105½	74½	1,766	6,192	Penn. Salt	50	150,000	5.00	8.09	6.08
...	....	149¼	114½	118½	89½	252,380	601,403	United Gas Imp	50	2,130,088	...		4.59
								MONTREAL					
33¾	31	...	...	39½	20	...	....	Asbestos Corp	No	200,000	1.50		1.02
92½	92½	...	...	98	82½	...	....	pfd	100	74,561	7.00		
43	42½	...	...	43½	21½	...	....	Canada. Ind. Alc	No	(d)800,000	1.28	2.49	2.63
86	85	...	....	*277½	67	...	....	Shawinigan W. & P	No	1,100,000	2.00	2.63	
...	...	...	...	207	142	...	....	Sherwin William of Can	100	40,000	6.00	8.84	9.54
...	...	...	...	127	117	...	....	pfd	100	34,350	7.00		
								BALTIMORE					
125	125	...	...	39¾	37	...	....	Davison Chem	No	310,000	...		...
...	....	28¼	17	20½	15	16,050	23,026	Silica Gel	No	600,000	...		...
								UNLISTED					
74	78	...	...	...	...	...	....	Casein Co	100	21,196	7.00		7.10
138	143	...	...	89	55	...	....	Merck & Co pfd	100	33.950	4.00		7.60
...	...	...	...	...	...	...	....	Merrimac	50	70,560	...		...
...	...	...	...	...	...	...	....	Newport Chem	1	912,198	4%		

*Old stock. † Combined A & B. (b) June 18 to Dec. 30. (d) 1927 earnings on 969,480. (e) Bid & Asked. (f) Thru Jan. 28 (g) High low.

The Trend of Prices

Heavy Chemical Business Shows Continued Good Volume in May

Most Factors Report Record Business Months in April and May—Calcium Chloride Sales Setting New Record —Alcohol Appears Firmer—Possibility of Anhydrous Ammonia Advance Seen.

In making the rounds of the heavy chemical industry there seems to be an almost universal feeling of optimism prevailing. In previous months of the current year opinion was fairly well divided as to just how good conditions in the chemical industry actually were. However, with but few minor exceptions, all domestic sellers are united in stating that business is running ahead of the planned schedules. A certain percentage of the manufacturers' enthusiasm can, of course, be discounted as natural in accompanying an average good season, but they could hardly be born of a brave front with nothing to back it up.

It is true that the past two months are always counted on as good sales months just prior the summer relapse of business, but this has been taken into consideration and these statements are based on actual comparisons of sales for corresponding months of previous years. Alkalies, always accepted as the general index of business conditions by the chemical industry are moving well and it was from this group that the most optimistic statements are heard. Such expressions as "the best month (April) in the history of the company" were not uncommon, and one dealer, not in the alkali field, said that a careful check of stocks at his various shipping points showed a smaller inventory than had been the case since the days of inflation immediately following the War. It truly seems that the rather doubtful hazard of Presidential Year will be surmounted in 1928 without embarrassment, by a large portion of the industry.

The Alcohol Position

So many contrary opinions are expressed as to the present and future status of the alcohol market, that from the position of being "on the outside looking in" it is difficult to say anything which might not be made to appear ridiculous within the week. Certainly a good deal of credance must be attached to the insistent statements by the producers that the out of town markets are showing undoubted signs of recovering. Also, the figures released by the Industrial Alcohol Producers' Association, which are accepted as very nearly accurate, show that the industry is in a much better position at the present time as concerns stocks on hand in all quarters. Aligned against this are statements from certain dealers that if there is strength to the market, it has not shown itself in their particular territory. The manufacturers content that these dealers are still endeavoring to buy at the old levels and that it is to their advantage to take a bearish attitude.

It has been hinted in some quarters that an advance in anhydrous ammonia before the season is much further along need not be looked on with surprise. Stocks of ammonia are not large and with a good consuming season in the offing, this contention is not unreasonable.

While the sharp cut in the price of borax seems in direct to contrast to the general trend of the market it should be said that the reduction was not brought on by any lack of consuming demand. Rather, it is a desire for a broader field of sale, which has hitherto been closed to borax because of price and because of the ability of the producer who precipitated the decline to sell at the newly established levels and still show a profit. It will be interesting to note the effect this move will have on the gross tonnage sale of borax.

Calcium chloride may be cited as an example of sales volume in excess of the planned volume. It was stated last week in one quarter that the sale during the first four or five days in June were well in excess of the first fifteen days of the corresponding month last year. This is partially explained by the very effective educational work which has been circulated of recent years among towns, counties and states and while the present day trend is toward concerte and similar roads, the sale of calcium chloride continues to climb with each year.

Glycerin Still Lacks Strength

The plight of the glycerin market—from the sellers viewpoint—is not in accordance with the above, but a survey of the situation seems to indicate that the market is settling to a new level rather than being in a weak position from which it may be expected to recover at any time. The largest consumers of dynamite glycerin never were too satisfied with their lot of being practically dependent on the whims of the producers and they will undoubtedly take advantage of the commercial production of glycerin from molasses mash and the fact that glycerin can now be partially replaced by another raw material. Determined competition from alcohol and ethylene glycol in the anti-freeze field does not help the statistical position of the market. Also, evidence of foreign competition, which has again been active of recent weeks, precludes the possibility of any substantial advance in the price of the dynamite grade.

Copper Sulfate, Mercury Strong

While the mercury market by its persistency in remaining at levels of from $120.00 to $125.00 a flask, seems to indicate strength, reports of large stock in Europe are not reassuring to sellers here and any resumption of operations in Spain or Italy would further burden the market to the extent that quite a substantial demand would be necessary to hold the present levels. It is interesting to note that domestic production of mercury shows quite a sizeable increase for 1927 over the previous year, but unfortunately for the consumer, importers have the habit of dropping the price to a level which makes it impossible for American mines to produce at a profit whenever the latter show any signs of becoming a real menace to the allotted share of business in this country.

Copper sulfate retains the strength which has marked it since the latter part of 1927. These producers are in the fortunate position of having a current demand more than equal to their output, with the result that the market has advanced, though this is also contingent on the trend of the raw material copper market.

These items are outstanding for the month just past. As indicated above the condition of the entire market seems quite firm; there has been a dearth of actual changes in price since the turn of the year and while it is true that a review of these changes of the year to date would show declines in excess of advances, the strength in the basis items on the list outweigh these day to day fluctuations and give the impression of a generally firm market going into the Summer months.

Prices Current

Heavy Chemicals, Coallar Products, Dye-and-Tanstuffs, Colors and Pigments, Fillers and Sizes, Fertilizer and Insecticide Materials, Naval Stores, Fatty Oils, etc.

Chemical prices quoted are of American manufacturers for spot New York, immediate shipment, unless otherwise specified. Products sold f. o. b. works are specified as such. Imported chemicals are so designated. Resale stocks when a market factor are quoted in addition to makers' prices and indicated "second hands."

Oils are quoted spot New York, ex-dock. Quotations f.o.b. mills, or for spot goods at the Pacific Coast are so designated.

Raw materials are quoted New York, f. o. b., or ex-dock. Materials sold f. o. b. works or delivered are so designated.

The current range is not "bid and asked," but are prices from different sellers, based on varying grades or quantities or both. Containers named are the original packages most commonly used.

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Acetone — Movement over the month has been satisfactory to producers and the price of 13c lb. is well maintained in all quarters.

Acid Acetic — With the principal consuming industries taking but small supplies the market has been rather routine over the month. Prices on all grades are unchanged.

Acid Citric — With weather conditions not up to previous years at this season the interest during the month of May was limited. However, with the appearance of warm weather, the market is expected to take on a better tone. Both domestic and imported prices are unchanged.

Acid Cresylic — Movement into consumption has been quite good during the month and sellers are having no trouble in maintaining the openly quoted market, particularly on the light grade. There is quite a range in the price of light, with quotations heard from 73c @ 78c gal. in bulk according to seller. Small parcel shipments are proportionately higher. Dark acid is named at 71c @ 72c gal.

Acid Oxalic — In general the market is held at 11c @ 11½c lb. in this writing. During the past month competition for business has resulted in a shading to 10¾c lb. in some instances but the usual good volume of business has been placed at the higher levels. Manufacturers find a call for their entire output.

Albumen — The undertone of strength, which was beginning to become apparent when last reported, has continued to increase during the past month. Both edible and technical egg albumen are now in a very strong position although there has been as yet no advance in quoted prices. This is practically the only occasion during the past two years when this market has shown signs of strength over any extended period of time. In some measure this is due to the fact that the contract period is now in full swing. Other important contributing features are the strong conditions existing in the primary market and the fact that the Chinese rate of exchange has taken quite a marked turn upwards. Blood and vegetable albumen remain unchanged.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	.24	.24	.24	Acetaldehyde, drs 1c-1 wks...lb.	.18½	.21	.26	.18½
.....	.20	.20	.20	Acetanilid, tech, 150 lb bbl....lb.	.23	.24	.24	.23
.....	.29	.29	.29	Acetic Anhydride, 92-95%, 100 lb cbys.....lb.	.29	.35	.35	.29
.....	.38	.32	.37	Acetin, tech drums.....lb.				
.02½	.12	.12	.12	Acetone, CP, 700 lb drums c-1 wks.....lb.	.....	.13	.13	.13
1918	1.65	1.65	1.65	Acetone Oil, drs NY.....gal.	1.65	1.75	1.75	1.65
.....	.42	.42	.42	Acetyl Chloride, 100 lb cby...lb.	.42	.45	.45	.42
				Acids				
1.50	3.38	3.38	3.38	Acid Acetic, 28% 400 lb bbls c-1 wks.....100 lb.	.....	3.38	3.38	3.38
.....	11.92	11.92	11.92	Glacial, bbl c-1 wk...100 lb	.....	11.92	11.92	11.92
.....	.98	.98	.98	Anthranilic, refd, bbls.....lb.	.98	1.00	1.00	.98
.....	.80	.80	.80	Technical, bbls.....lb.	.....	.80	.80	.80
1.00	1.60	1.25	1.38	Battery, cbys.....100 lb.	1.60	2.25	2.25	1.60
.23	.57	.57	.57	Benzoic, tech, 100 lb bbls...lb.	.57	.60	.60	.57
.07¼	.08½	.08½	.08½	Boric, crys. powd, 250 lb bbls.....lb.	.08½	.11	.11	.08½
.....	1.25	1.25	1.25	Broenner's, bbls.....lb.	.....	1.25	1.25	1.25
1917	.85	.80	.84	Butyric, 100% basis cbys...lb.	.85	.90	.90	.85
1917	4.90	4.85	4.89	Camphoric.....lb.	.....	4.85	4.85	4.85
.....	.25	.25	.25	Carbolic, 10%, 50 gal bbls..lb.	.13	.14	.28	.13
....	.15	.15	.15	Chlorosulfonic, 1500 lb drums wks.....lb.	.15	.16	.16	.15
1918	.37	.25	.29	Chromic, 99%, drs extra...lb.	.25	.30	.30	.25
.....	1 00	1.00	1.00	Chromotropic, 300 lb bbls..lb.	1.00	1.06	1.06	1.00
.53	.44½	.43	.43 3/8	Citric, USP, crystals, 230 lb bbls.....lb.	.46	.59	.44½	.59
.....	.95	.95	.95	Cleve's, 250 lb bbls.....lb.	.95	.97	.97	.95
1918	.60	.57	.61	Cresylic, 95%, dark drs NY.lb.	.71	.73	.71	.68
1918	.70	.60	.63½	97-99%, pale drs NY....lb.	.73	.78	.74	.72
1918	.11	.10	.10½	Formic, tech 85%, 140 lb cby.....lb.	.11	.12	.12	.11
1918	.50	.50	.50	Gallic, tech, bbls.....lb.	.50	.55	.55	.50
1918	.74	.69	.72	USP, bbls.....lb.	....	.74	.74	.74
.....	1.00	1.00	1.00	Gamma, 225 lb bbls wks...lb.	1.00	1.06	1.06	1.00
1918	.57	.57	.57	H, 225 lb bbls wks.....lb.	.57	.63	.63	.57
.....	.67	.65	.65½	Hydriodic, USP, 10% soln cbylb.	...	.67	.67	.67
.....	.45	.45	.45	Hydrobromic, 48%, coml, 155 lb cbys wks..... ...lb.	.45	.48	.48	.45
				Hydrochloric, CP, see Acid Muriatic.....				
.....	.80	.80	.80	Hydrocyanic, cylinders wks lb.	.80	.90	.90	.80
.03	.06	.06	.06	Hydrofluoric, 30%, 400 lb bbls wks.....lb.	.....	.06	.06	.06
.....	.11	.11	.11	Hydrofluosilicic, 35%, 400 lb bbls wks.....lb.	.....	.11	.11	.11
.....	.85	.85	.85	Hypophosphorous, 30%, USP, demijohns.....lb.	.....	.85	.85	.85
.019	.05½	05½	.05½	Lactic, 22%, dark, 500 lb bbls lb.	.04¾	.05½	.06	.04¾
.04	.13	.13	.13	44%, light, 500 lb bbls ...lb.	.12	.12½	.13½	.12
.....	.52	.52	.52	Laurent's, 250 lb bbls.....lb.	.52	.54	.54	.52
.....	.60	.60	.60	Metanilic, 250 lb bbls.....lb.	.60	.65	.65	.60
1918	.07¾	.07¾	.07¾	Mixed Sulfuric-Nitric..... drs wks.....N unit	.07¾	08	.08	.07¾
1918	.01	.01	.01	drs wks.....S unit	.01	.01½	.01½	.01
.....	.21	.18	.19¾	Monochloroacetic, tech bbl.lb.	.18	.21	.21	.18
.....	1.65	1.65	1.65	Monosulfonic, F Delta bbls.lb.	.....	.65	.65	.65
1.15	1.35	1.35	1.35	Muriatic, 18 deg, 120 lb cbys c-1 wks.....100 lb.	.....	1.35	1.35	1.35
1.30	1.70	1.70	1.70	20 degrees, cbys wks..100 lb.	1.70	1.80	1.80	1.70
.....	.95	.95	.95	N & W, 250 lb bbls.....	.85	.95	.95	.85
1918	.55	.55	.55	Naphthionic, tech, 250 lb .....lb.	.55	.59	.59	.55
3.37½	5.00	5.00	5.00	Nitric, 36 deg, 135 lb cbys c-1 wks.....100 lb.	.....	5.00	5.00	5.00
4.50	6.00	6.00	6.00	40 deg, 135 lb cbys, c-1 wks.....100 lb.	.....	6.00	6.00	6.00
.07½	.11½	.11	.11	Oxalic, 300 lb bbls wks NY..lb.	.10½	.11	.11½	.10¾
.036	.08	.07	.07½	Phosphoric 50%, 150 lb cby .lb.	.08	.08½	.08½	.08
.23	.19	.16	.16¾	Syrupy, USP, 70 lb drs...lb	.....	.16	.16	.16
1918	.50	.50	.50	Picramic, 300 lb bbls.....lb	.....	.50	.50	.50
.50	.45	.30	.41½	Picric, kegs.....lb.	.40	.50	.50	.40
.....	.86	.86	.86	Pyrogallic, technical, 200 lb bbls.....lb.	.....	.86	.86	.86
.22½	.27	.27	.27	Salicylic, tech, 125 lb bbl...lb.	.27	.32	.32	.27
1918	.15	.15	.15	Sulfanilic, 250 lb bbls.....lb.	.15	.16	.16	.15
1.00	1.60	1.60	1.60	Sulfuric, 66 deg, 180 lb cbys 1c-1 wks.....100 lb.	1.60	1.95	1.95	1.60
1.00	1.20	1.20	1.20	1500 lb dr wks.....100 lb.	.....	1.20	1.20	1.20
.87½	1.10	1.10	1.10	60°, 1500 lb dr wks..100 lb.	.....	1.12½	1.12½	1.12½
1.25	1.50	1.50	1.50	Oleum, 20%, 1500 lb drs 1c-1 wks.....100 lb.	.....	1.52½	1.52½	1.52½
.....	42.00	42.00	42.00	40%, 1c-1 wks net.....ton	.....	42.00	42.00	42.00
.55	.30	.30	30	Tannic, tech, 300 lb bbls...lb.	.30	.40	.40	.30
.30½	.37	.29½	.32½	Tartaric, USP, crys, powd, 300 300 lb bbls.....lb.	.37	.38	.38	.34½
.....	.85	.85	.85	Tobias, 250 lb bbls.....lb.	.....	.85	.85	.85

Prices Current and Comment

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Alcohol — Reports still persist of an underlying weakness in the entire market. Producers deny that this is the case, stating that outside of the Metropolitan district a full price is being paid by jobbers and consumers alike. This is not in accordance with reports from the midwest of but meagre signs of strength in that territory. Business on spot has not been very brisk over the month but this is not unusual at this season of the year. Producers point to forward sales for delivery through the Fall months as being indicative of the strength of the market. It is estimated in some quarters that fully 75% to 80% of the contract business for that season has been placed. There are still some dealers in the Metropolitan district who are striving to buy at under the openly quoted levels. These efforts have not been successful in most instances.

Ammonia — Continues strength in the anhydrous market and a better tone in aqua throughout the month seem to indicate a possible advance, particularly in the former grade at an early date. While producers do not specifically state that an advance is due, it is intimated that this step will be taken if sales continue in their present volume. Anhydrous is being sold at 13½c lb. and aqua at 3c lb.

Ammonium Chloride — To the continued surprise of even the producers, the sale of domestic white ammonium chloride has continued quite brisk during May. While sellers freely admit that a falling off in business from the battery trade is a natural trend, they continue to experience a demand in excess of their estimate of what would be sold during this season. The price is steady at $4.70 100 lbs., with no imported competition. In fact, importers admit to being unable to consider importation at these levels. Gray sal ammoniac is not moving very well, though producers claim that several galvanizers have again turned to it to replace zinc ammonium chloride.

Ammonium Persulfate — With the approach of Summer, the fur dyeing trade has practically suspended operations and the demand has fallen off to practically nothing. What little business there is passing is at 25c @ 26c lb. Producers in this country will be better able to care for the increased consuming demands in the Fall, as they anticipate increasing their own production. There were some rather sizeable imports of this item within the past few weeks, but they are off the market, having been sold before arrival.

Ammonium Sulfate — As this season has closed and the only activity reported

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	2.75	2.00	2.60	Trichloroacetic, bottles....lb.	.....	2.75	2.75	2.75
.....	2.00	2.00	2.00	Kegs....lb.	.....	2.00	2.00	2.00
.....	1.00	1.00	1.00	Tungstic, bbls....lb.	1.00	1.25	1.25	1.00
.19	.45	.45	.45	Albumen, blood, 225 lb bbls...lb.	.43	.47	.55	.43
.40	.95	.80	.87	Egg, edible....lb.	.79	.84	.84	.79
.....	.92	.77	.82	Technical, 200 lb. cases..lb.	.70	.75	.80	.70
1918	.60	.60	.60	Vegetable, edible....lb.	.60	.65	.65	.60
.....	.50	.50	.50	Technical....lb.	.50	.55	.55	.50
.....	20	.19	.19½	Alcohol, Butyl, Normal, 50 gal drs c-l wks....lb.	.....	18.25	.20	.18½
.....	.20½	.19½	.19½	Drums, lc-l wks....lb.	.....	18.75	.19½	.18½
.....	.19½	.18½	.19	Tank cars wks....lb.	.....	17.75	.19	.17½
.....	.....	.....	.....	Amyl (from pentane) drs c-l wks....gal.	1.75	2.25	2.25	1.75
1.70	1.70	1.70	1.80	Diacetone, 50 gal drs del...gal.	1.70	1.80	1.80	1.70
2.50	3.70	3.70	3.70	Ethyl, USP, 190 pf, 50 gal bbls....gal.	.....	2.65	3.70	2.65
.....	.50	.50	.50	Anhydrous, drums....gal.	.....	.66½	.55	.50
1919	.52	.37½	.46	Completely denatured, No. 1, 190 pf, 50 gal drs drums extra....gal.	.....	.48½	.52	.48½
1918	.50	.29	.42	No. 5, 188 pf, 50 gal drs. drums extra....gal.	.....	.43	.50	.43
.....	.46	.25	.40	Tank, cars....gal.	.....	.42	.46	.41
.....	1.00	1.00	1.00	Isopropyl, ref, gal drs....gal.	1.00	1.25	1.25	1.00
.....	1.00	1.00	1.00	Propyl Normal, 50 gal dr...gal.	.....	1.00	1.00	1.00
.....	.80	.80	.80	Aldehyde Ammonia, 100 gal dr lb	.80	.82	.82	.80
1918	.65	.65	.65	Alpha-Naphthol, crude, 300 lb bbls....lb.	.....	.65	.65	.65
1917	.35	.35	.35	Alpha-Naphthylamine, 350 lb bbls....lb.	.35	.37	.37	.35
1.75	3.25	3.15	3.08¼	Alum Ammonia, lump, 400 lb bbls, lc-l wks....100 lb.	3.25	3.30	3.30	3.25
5.00	5.25	5.25	5.25	Chrome, 500 lb casks, wks ....100 lb.	5.25	5.50	5.50	5.25
4.00	3.50	3.10	3.43	Potash, lump, 400 lb casks wks....100 lb.	3.10	3.20	3.20	3.10
5.00	5.25	5.25	5.25	Chrome, 500 lb casks wks ....100 lb.	5.25	5.50	5.50	5.25
.....	3.75	3.75	3.75	Soda, ground, 400 lb bbls wks....100 lb.	.....	3.75	3.75	3.75
17.00	27.00	26.00	26.08	Aluminum Metal, c-1 NY 100 lb.	.....	24.30	26.00	24.30
.....	.35	.35	.35	Chloride Anhydrous, 275 lb drums....lb.	.35	.40	.40	.35
.12	.17	.17	.17	Hydrate, 96%, light, 90 lb bbls....lb.	.17	.18	.18	.17
.....	.23	.23	.23	Stearate, 100 lb bbls....lb.	.18	.22	.24	.18
1.25	1.75	1.75	1.75	Sulfate, Iron, free, bags c-l wks....100 lb.	.....	1.75	1.75	1.75
.87½	1.40	1.35	1.35½	Coml, bags c-l wks..100 lb.	.....	1.40	1.40	1.40
.....	1.15	1.15	1.15	Aminoazobenzene, 110 lb kegs.lb.	.....	1.15	1.15	1.15
				Ammonium				
.25	.13½	.10	.10½	Ammonia, anhyd, 100 lb cyl...lb.	.....	.13½	.13½	.13½
.04½	.03	.02½	.03	Water, 26°, 800 lb dr del....lb.	.....	.03	.03	.03
.....	.21	.21	.21	Bifluoride, 300 lb bbls.....lb.	.21	.22	.22	.21
.08	.08¼	.08¼	.08¼	Carbonate, tech, 500 lb cs...lb.	.08¼	.09	.09	.08¼
6.25	5.05	4.85	5.00	Chloride, White, 100 lb. bbls. wks....100 lb.	4.65	5.15	5.15	4.65
.05½	.07	.05½	.06	Gray, 250 lb bbls wks....lb.	5.25	5.75	5.75	5.25
.10	.11	.11	.11	Lump, 500 lb cks spot....lb.	.11	.11½	.11½	.11
.....	.15	.15	.15	Lactate, 500 lb bbls.....lb.	.15	.16	.16	.15
.15	.06	.06	.06	Nitrate, tech, casks.....lb.	.06	.10	.10	.06
.....	.27½	.27½	.27½	Persulfate, 112 lb kegs.....lb.	.27½	.29	.38	.27½
.....	.18	.18	.18	Phosphate, tech, powd, 325 lb bbls....lb.	.....	.18	.18	.18
2.60	2.30	2.55	2.41	Sulfate, bulk c-l.....100 lb.	.....	2.40	2.90	2.40
2.60	2.55	2.35	2.42	Southern points.....100 lb.	.....	2.50	3.00	2.50
.....	59.70	56.85	57.56	Nitrate, 26% nitrogen 31.6% ammonia imported bags....ton	.....	60.85	60.85	60.85
.....	.55	.55	.55	Sulfocyanide, kegs.....lb.	.55	.60	.60	.55
1.55	2.25	1.90	2.10¾	Amyl Acetate, (from pentane) drs....gal.	1.90	2.25	2.25	1.90
				Alcohol, see Fusel Oil.....				
.10¾	.15½	.15	.15	Aniline Oil, 960 lb drs.....lb.	.15½	.16½	.16½	.15½
.32	.41	.41	.41	Annatto, fine....lb.	.41	.48	.48	.41
.....	.90	.90	.90	Anthraquinone, sublimed, 125 lb bbls....lb.	.90	1.00	1.00	.90
.....	.11½	.14	.12	Antimony, metal slabs, ton lots ....lb.	.....	.10½	.11½	.09½
.03½	.15½	.14	.15	Needle, powd, 100 lb cs ....lb.	.....	.10	.12	.10
1918	.17	.17	.17	Chloride, soln (butter of) cbys....lb.	.17	.18	.18	.17
.06	.16½	.16½	.16½	Oxide, 500 lb bbls.....lb.	.....	.11	.12	.10
.11½	.28	.25½	.26½	Salt, 66%, tins.....lb.				
.18	.20	.16	.17½	Sulfuret, golden, bbls.....lb.	.16	.20	.20	.16
.15	.42	.37½	.38	Vermilion, bbls.....lb.	.38	.42	.42	.38
.14	.18	.18	.18	Archil, conc, 600 lb bbls.....lb.	.17	.19	.19	.17
.08	.12	.12	.12	Double, 600 lb bbls.....lb.	.12	.14	.14	.12
.....	.16	.14	.15	Triple, 600 lb bbls.....lb.	.15	.16	.16	.15
.....	.15	.12½	.13½	Argols, 80%, casks .....lb.	.....	.08	.08	.08
.....	.08	.03	.06½	Coude, 30%, casks.....lb.	.15	.16	.16	.15
.05½	.10½	.10½	.10½	Arsenic, Red, 224 lb kegs, cs..lb.	.10½	.11	.11	.10½
.03	.04	.03½	.04	White, 112 lb kegs.....lb.	.04	.04½	.04	.03½
.....	14.75	14.75	14.75	Asbestine, c-l wks.....ton	.....	14.75	14.75	14.75
.....	47.50	47.50	47.50	Barium, Carbonate, 200 lb bags wks....ton	57.00	58.00	57.00	47.00
.13	.12	.12	.12	Chlorate, 112 lb kegs NY...lb.	.12	.12½	.12½	.12
30.00	65.00	57.50	60.70	Chloride, 800 lb bbl wks...ton	54.00	60.00	60.00	54.00
1916	.13	.13	.13	Dioxide, 88%, 690 lb drs...lb.	.13	.13½	.13½	.13
.....	.04½	.04½	.04½	Hydrate, 500 lb bbls.....lb.	.04	.04½	.04½	.04½
.05½	.07½	.07½	.07½	Nitrate, 700 lb casks.....lb.	.07½	.08	.08	.07½
17.00	23.00	23.00	23.00	Barytes, Floated, 350 lb bbls wks....ton	23.00	24.00	24.00	23.00
.....	.....	.....	.....	Bauxite, bulk, mines.....ton	5.00	8.00	8.00	5.00
.39	.40	.37	.39	Beeswax, Yellow, crude bags..lb.	.37	.38	.38	.37
.40	.46	.38	.43	Refined, cases.....lb.	.41	.43	.43	.41

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is in next year's business, prices have continued to decline during the past month. The spot market is now quoted at $2.40 per 100 pounds and Southern points at $2.50 per 100 pounds, which still compares very favorably with prices existing a year ago.

Antimony — The metal market advanced as high as 11¼c lb. during the first half of last month. Of late, however, despite continued firmness in the Chinese market, the price here is declined, and is now quoted at 10⅝c lb. This figure is still ⅜c lb. higher than when last reported. Conditions here are quiet and the market rather weak due to a lack of buying interest. In contrast, the primary market continues strong.

Arsenic — There has been a fairly good movement during the month, though the bulk sold did not find its way into the insecticide manufacturing field as might be expected for this season. This latter industry has been confining its orders to actual necessities up until the present time.

Barium Chloride — Though reported as firmer toward the close of the month, taken on the whole the market for the entire period did not show any signs of strength. Competition from importers is still quite in evidence and domestic makers find it necessary to meet the imported price of slightly under $55.00 ton to get what business there is available.

Beeswax — Fair demand and firm prices have been the rule during the past month in the market for crude. Local demand has been in good volume at prevailing quoted prices of 37c @ 38c lb. Refined has declined somewhat in price and is now quoted at 41c @ 43c lb.

Benzene — Producers seem very optimistic as to the futue of the market. With the advance in the price of gasoline they can see nothing but at least a continuation of a fairly good market and there is talk of further strength in sympathy with higher gasoline prices. Coke ovens are operating at about their normal gait and stocks are said to be not very large. In spite of the stated good position of the market, reports are heard in some quarters which would indicate that the openly quoted levels are being shaded. Quotations are at 22c gal. in tanks.

Bleaching Powder — The continued quietness in the textile industry has, of course, been reflected in withdrawals of bleaching powder, and though sellers are doing some business the market is routine and none too strong.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.47½	.58	.56	.57½	White, cases....lb.	.56	.58	.58	.56
.....	.65	.65	.65	Benzaldehyde, technical, 945 lb drums wks....lb.	.65	.70	.70	.65
.....	.23	.21	.22	Benzene, 90%, Commercial, 8000 gal tanks wks....gal.	.....	.22	.23	.21
.....	.23	.21	.22½	CP, tanks works....gal.	.....	.22	.23	.21
.....	.70	.70	.70	Benzidine Base, dry, 250 lb bbls....lb.	.70	.74	.74	.70
.....	1.00	1.00	1.00	Benzoyl, Chloride, 500 lb drs..lb.	.....	1.00	1.00	1.00
.....	.....	.....	.....	Benzyl, Chloride, tech drs....lb.	.....	.25	.25	.25
.....	.24	.24	.24	Beta-Naphthol, 250 lb bbl wk.lb	.24	.26	.26	.24
.....	1.35	1.35	1.35	Naphthylamine, sublimed, 200 lb bbls....lb.	.....	1.35	1.35	1.35
.....	.63	.63	.63	Tech, 200 lb bbls....lb.	.63	.65	.65	.63
75.00	80.00	80.00	80.00	Blanc Fixe, 400 lb bbls wks...ton	80.00	90.00	90.00	80.00
1.20	2.25	2.00	2.23	Bleaching Powder, 300 lb drs c-1 wks contract....100 lb.	.....	2.25	2.25	2.25
.....	2.25	2.00	2.02	700 lb drs c-1 wks contract ....100 lb.	.....	2.00	2.00	2.00
3.00	3.75	4.75	4.47½	Blood, Dried, FOB, NY..Unit	.....	4.75	5.25	4.75
.....	.....	.....	.....	Chicago....Unit	.....	5 35	5.35	4.75
.....	.....	.....	.....	S. American shipt....Unit	.....	4.75	5.00	4.50
.27	.30	.28	.29	Blues, Bronze Chinese Milori Prussian Soluble....lb.	.31	.35	.35	.31
28.50	38.00	29.00	29.04	Bone, raw, Chicago....ton	29.00	30.00	30.00	29.00
.....	.06	.06	.06	Bone, Ash, 100 lb kegs....lb.	.06	.07	.07	.06
.02½	.08½	.08½	.06	Black, 200 lb bbls....lb.	.....	.08½	.08½	.08½
20.00	30.00	28.00	29.46	Meal, 3% & 50%, Imp....ton	.....	32.00	37.00	32.00
.04	.04½	.04½	.04½	Borax, crys, 500 lb bbls....lb.	.02½	.03½	.05	.02½
.07	.11	.11	.11	Bordeaux, Mixture, 16% pwd.lb.	.11	.12	.12	.11
.03½	.08	.08	.08	Paste, bbls....lb.	.08	.10	.10	.08
55.00	28.00	26.00	27.30	Brazilwood, sticks, shpmt....lb.	26.00	28, 00	28.00	26.00
1918	.60	.60	.60	Bronze, Aluminum, powd blk.lb.	.60	1.20	1.20	.60
.....	.55	.55	.55	Gold, bulk....lb.	.55	1.25	1.25	.55
.....	1.60	1.42	1.52	Butyl, Acetate, normal drs 1c-1 wks....gal.	.....	1.45	1.60	1.60
.....	1.55	1.42	1.47½	Tank, drs wks....gal.	.....	1.40	1.55	1.55
.....	1.00	1.00	1.00	Secondary, 50 gal drs....gal.	1.00	1.05	1.05	1.00
.....	.70	.70	.70	Aldehyde, 50 gal drs wks...lb.	.....	.70	.70	.70
.....	.34	.34	.34	Propionate, drs....lb.	.34	.36	.36	.34
.....	.60	.60	.60	Stearate, 50 gal drs....lb.	.....	.60	.60	.60
.....	.57	.57	.57	Tartrate, drs....lb.	.57	.60	.60	.57
1918	1.50	1.35	1.42	Cadmium, Sulfide, boxes....lb.	1.35	2.00	2.00	1.35
				Calcium				
.....	3.50	3.50	3.50	Calcium, Acetate, 150 lb bags c-1....100 lb.	.....	3.50	3.50	3.50
.....	.07½	.07½	.07½	Arsenate, 100 lb bbls c-1 wks....lb.	.07	.08	.08	.07
.....	.05	.05	.05	Carbide, drs....lb.	.05	.06	.06	.05
.....	1.00	1.00	1.00	Carbonate, tech, 100 lb bags c-1....lb.	1.00	1.00	1.00	1.00
1918	27.00	27.00	27.00	Chloride, Flake, 375 lb drs c-1 wks....ton	.....	25.00	27.00	25.00
12.00	21.00	21.00	21.00	Solid, 650 lb drs c-1 fob wks ....ton	20.00	22.00	23.00	20.00
.....	52.00	52.00	52.00	Nitrate, 220 lb bbls c-1 NY..ton	.....	52.0C	52.00	52.00
.....	.09	.09	.09	Phosphate, tech, 450 lb bbls.lb.	.07	.08	.08	.07
.....	.....	.....	.....	Camwood, Bark, ground bbls.lb.	.....	.18	.18	.18
.22	.33	.33	.30½	Candelilla Wax, bags....lb.	.....	.24	.28	.24
.....	.08	.08	.08	Carbon, Decolorizing, 40 lb bags c-1....lb.	.08	.15	.15	.08
.....	.12	.12	.12	Black, 100-300 lb cases 1c-1 NY....lb.	.....	.12	.12	.12
.06½	.05½	.05½	.05½	Bisulfide, 500 lb drs 1c-1 NY....lb.	.05½	.06	.06	.05½
.....	.06	.06	.06	Dioxide, Liq, 20-25 lb cyl...lb.	.....	.06	.06	.06
.07½	.07	.07	.07	Tetrachloride, 1400 lb drs delivered....lb.	.07	.07½	.07½	.07
.50	.50	.50	.50	Carnauba Wax, Flor, bags....lb	.57	.58	.58	.57
.....	.90	.54	.60½	No. 1 Yellow, bags....lb.	.....	.55	.60	.54
.32	.37	.24	.31	No. 2 N Country, bags....lb.	.36	.37	.38	.34
.42½	.68	.48	.56	No. 2 Regular, bags....lb.	.....	.52	.56	.51
.....	.....	.....	.....	No. 3 N. C....lb	.31	.32	.32	.31
.....	.....	.....	.....	No. 3 Chalky ....lbi	.31	.32	.32	.31
.....	.18½	.15½	.17	Casein, Standard, ground....lb.	.15	.15½	.18½	.15
.....	.34	.26	.32½	Celluloid, Scraps, Ivory cs....lb.	.26	.30	.30	.26
.....	.18	.18	.18	Shell, cases....lb.	.18	.20	.20	.18
.....	.34	.26	.32½	Transparent, cases....lb.	.30	.32	.32	.30
.....	1.40	1.40	1.40	Cellulose, Acetate, 50 lb kegs..lb.	.....	1.40	1.40	1.40
.....	.03	.03	.03	Chalk, dropped, 175 lb bbls...lb.	.03	.03½	.03½	.03
.03	.02½	.02½	.02½	Precip, heavy, 560 lb cks...lb.	.....	.04½	.04½	.04½
.04	.04½	.04½	.04½	Light, 250 lb casks....lb.	.02½	.03½	.03½	.02½
.....	.18	.18	.18	Charcoal, Hardwood, lump, bulk wks....bu.	.18	.19	.19	.18
1918	.06	.06	.06	Willow, powd, 100 lb bbl wks....lb.	.06	.06½	.06½	.06
.....	.04	.04	.04	Wood, powd, 100 lb bbls....lb.	.04	.05	.05	.04
.....	.03	.02½	.03	Chestnut, clarified bbls wks,..lb.	.02½	.03	.03	.02½
.04	.02	.01½	.02	25% tks wks....lb.	.01½	.02	.02	.01½
.....	.05½	.05½	.05½	Powd, 60%, 100 lb bgs wks.lb.	.....	.04 4/5	.04 4/5	.04 4/5
.....	.06½	.06½	.06½	Powd, decolorized bgs wks..lb.	.05½	.06	.06	.05½
8.00	8.00	8.00	8.00	China Clay, lump, blk mines.ton	8.00	9.00	9.0c	8.00
.....	.01½	.01½	.01½	Powdered, bbls....lb.	.01½	.02	.02	.01½
.....	10.00	10.00	10.00	Pulverized, bbls wks....ton	10.00	12.00	12.00	10.00
14.00	15.00	15.00	15.00	Imported, lump, bulk. ton	15.00	25.00	25.00	15.00
.....	.03	.03	.03	Powdered, bbls....lb	.03	.03½	.03½	.03
1918	.08	.08	.08	Chlorine, cyls 1c-1 wks contract ....lb.	.08	.09	.09	.08
1917	.05½	.04	.04	Liq tank or multi-car lot cyls wks contract....lb.	.....	.03½	.03½	.03½
1918	.07	.07	.07	Chlorobenzene, Mono, 100 lb. drs 1c-1 wks....lb.	.....	.07	.07	.07
.19	.20	.20	.20	Chloroform, tech, 1000 lb drs..lb.	.20	.22	22	.20
.....	1.00	1.00	1.00	Chloropicrin, comml, cyls....lb.	1.00	1.35	1.35	1.00

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Blood — Lack of any sustained interest has been noted during the past month. This is wholly due to the declining season and is not unexpected. The market at New York is now quoted at $4.75 per unit, a decline of 25c per unit since last reported. Both South American shipments and the Chicago market are higher than when last reported, the former now being quoted at $4.75 per unit and the latter at $5.35 per unit.

Borax — On the first of June one of the leading producers announced a drastic cut in the price to 2½c lb. in bulk. Rumors of this action have been heard for some time, though it was not anticipated that the drop would be so sharp. A desire to open up larger consuming fields for the sale of borax and competition between the producers are given as the reason for the decline. At the time of going to press no announcement has been made from other producers as to what extent they will follow suit in this cut. It is of course presumed that they will have to meet this newly established level. The price ranges to 3¼c lb. as to quantity.

Calcium Arsenate — While some buying has been reported from Southern points, little activity is as yet reported. Quoted prices of 7c @ 8c lb. are being maintained in anticipation of the season which is not expected to be fairly under way much before July.

Calcium Chloride — The anticipated good movement of calcium chloride developed into a reality during the month of May. Sales were well ahead of last year according to figures given out by two of the principal producers. The first few days of June were even more productive of good business and it is predicted that the current month will be far in excess of the same month in previous years. As the consuming season has just gotten under way it is impossible to say how 1928 will compare with former years, but it is freely predicted that with a fair break on weather conditions, sales will far outstrip those of former years. The price is quoted at $20.00 ton for solid and $25.00 ton for flake.

Carnauba Wax — Has continued steady in the face of fair demand throughout the month. No. 1 yellow and No. 2 regular have advanced one cent lb. each in price and are now quoted at 55c lb. and 52c lb. respectively. As added supplies of Florentine have become available, the price has declined one cent lb. and is now quoted at 57c @ 58c lb. Other grades are unchanged in price with undertones of strength prevailing in the market.

1914	1927				Current		1928	
July	High	Low	Aver.		Market		High	Low
.17	.27	.26	.26⅔	Chrome, Green, CP.....lb.	.26	.29	.29	.26
.03½	.06½	.06½	.06½	Commercial.....lb.	.06½	.11	.11	.06½
.11	.17½	.16½	.16¾	Yellow.....lb.	.15¼	.16¼	.17	.15¼
.....	.05	.04½	.04⅔	Chromium, Acetate, 8% Chrome bbls.....lb.	.04¾	.05¾	.05¾	.04¾
1918	.05½	.05½	.05½	20° soln, 400 lb bbls.....lb.	.....	.05½	.05½	.05½
.....	.27	.27	.27	Fluoride, powd, 400 lb bbl..lb.	.27	.28	.28	.27
.....	.34½	.34½	.34½	Oxide, green, bbls.....lb	.34½	.35½	.35½	.34½
.....	9.50	9.00	9.08	Coal tar, bbls.....bbl	9.00	9.50	9.50	9.00
1.00	2.10	2.10	2.10	Cobalt Oxide, black, bags....lb.	2.10	2.22	2.22	2.10
.48	.92	.77	.85⅔	Cochineal, gray or black bag..lb.	.84	.87	.87	.84
.42	.92	.77	.87½	Teneriffe silver, bags.....lb.	.....	.86	.86	.86
13.75	13.57½	12.90	12.97	Copper, metal, electrol...100 lb.	.....	14.75	14.75	12.90
.13½	.16¾	.16¼	.16½	Carbonate, 400 lb bbls.....lb.	.16¼	.17¼	.17¼	.16¼
.....	.28	.28	.28	Chloride, 250 .lb bbls.....lb.	.....	.28	.28	.28
.....	.48	.48	.48	Cyanide, 100 lb drs.....lb.	.48	.50	.50	.48
.....	.16½	.16½	.16½	Oxide, red, 100 lb bbls.....lb.	.16½	.17	.17	.16¾
.28	.18	.17	.18	Sub-acetate verdigris, 400 lb bbls.....lb.	.18	.19	.19	.18
4.00	5.00	4.75	4.91¾	Sulfate, bbls c-1 wks...100 lb.	5.15	5.85	5.15	5.05
13.00	17.00	13.00	13.33⅓	Copperas, crys & sugar bulk c-1 wks.....ton	13.00	14.00	14.00	13.00
.....	1.25	1.25	1.25	Sugar, 100 lb bbls.....100 lb.	1.25	1.35	1.35	1.25
.80	.40	.40	.40	Cotton, Soluble, wet, 100 lb bbls.....lb.	.40	.42	.42	.40
.....	42.00	20.00	33.75	Cottonseed, S.E. bulk c-1...ton	.....	.....	.....	.....
.....	42.00	20.00	29.85	Meal S.E. bulk.....ton	.....	.....	.....	.....
26.50	35.00	21.50	30.38	7% Amm., bags mills...ton	36.00	37.00	37.00	36.00
.23¾	.27	.22	.24	Cream Tartar, USP, 300 lb. bbls.....lb.	.26	.27½	.27½	.26
.53	.40	.40	.40	Creosote, USP, 42 lb cbys.....lb.	.40	.42	.42	.40
1918	.20	.20	.20	Oil, Natural, 50 gal drs....gal.	.17	.19	.19	.17
1918	.25	.25	.25	10-15% tar acid.....gal.	.21	.23	.23	.21
				25-30% tar acid.....gal.	.25	.28	.28	.25
1918	.17½	.17½	.17½	Cresol, USP, drums.....lb.	.17½	.20	.20	.17½
.07¾	.17	.16	.16½	Cudbear, English.....lb.	.16	.17	.17	.16
.05	.18½	.15	.18	Cutch, Rangoon, 100 lb bales lb.	.....	.18½	.18½	.18½
.....	.05	.05½	.05½	Borneo, Solid, 100 lb bale...lb.	.06	.07	.07	.06
.....	1.82½	1.67½	1.78⅓	Cyanamide, bulk c-1 wks Amm. .....lb.	.....	1.67½	1.67½	1.67½
.....	3.92	3.77	3.84½	Dextrin, corn, 140lb. bags 100 lb.	4.82	5.02	5.02	3.77
3.00	3.87	3.72	3.78¼	White, 130 lb bgs.....100 lb.	4.77	4.97	4.97	3.72
.05½	.08½	.08½	.08½	Potato, yellow, 220 lb bgs...lb.	.08	.09	.09	.08
.05½	.08½	.08½	.08½	White, 220 lb bags 1c-1....lb.	.08	.09	.09	.08
.....	.08¼	.08	.08	Tapioca, 200 lb bags 1c-1...lb.	.08	.08½	.08½	.08
.....	3.80	3.80	3.80	Diaminophenol, 100 lb kegs...lb				
.....	2.95	2.85	2.93½	Diamylphthalate, drs wks...gal.	.....	3.80	3.80	3.80
.....	3.25	3.25	3.25	Dianisidine, 100 lb kegs.....lb.	2.85	2.90	2.90	2.85
.....	.31½	.29½	.30½	Dibutylphthalate, wks.....lb.	.....	.28	.28	.28
.....	.55	.55	.55	Dibutyltartrate, 50 gal drs....lb.	.29½	.31½	.31½	.29½
.....	.23	.23	.23	Dichloromethane, drs wks....lb.	.55	.65	.65	.55
.....	2.15	2.15	2.15	Diethylamine, 400 lb drs.....lb.	.23	.25	.25	.23
.....	1.85	1.85	1.85	Diethyl carbonate, drs.....gal.	.....	2.15	2.15	2.15
1918	.55	.55	.55	Diethylaniline, 850 lb drs.....lb.	1.85	2.00	2.00	1.85
.....	.20	.20	.20	Diethyleneglycol, drs.....lb.	.55	.60	.60	.55
.....	.....	.....	.....	Mono ethyl ether, drs....lb	.10	.12	.12	.10
.....	.....	.....	.....	Mono butyl ether, drs....lb.	.25	.35	.35	.25
.....	.64	.64	.64	Diethylorthotoluidin, drs.....lb.	.64	.67	.67	.64
.....	.25	.25	.25	Diethyl phthalate, 1000 lb drums.....lb.	.24	.26	.26	.24
.....	.30	.20	.25	Diethylsulfate, technical, 50 gal drums.....lb.	.30	.35	.35	.30
.....	2.60	2.60	2.60	Dimethylamine, 400 lb drs....lb.	.....	2.62	2.62	2.62
1918	.32	.30	.31½	Dimethylaniline, 340 lb drs...lb	.30	.32	.32	.30
.....	.45	.45	.45	Dimethylsulfate, 100 lb drs...lb.	.45	.50	.50	.45
1918	.15½	.15	.15½	Dinitrobenzene, 400 lb bbls...lb.	.15½	.16½	.16½	.15½
.....	.18	.18	.18	Dinitrochlorine, 300 lb bbl....lb.	.18	.19	.19	.18
1918	.15	.15	.15	Dinitrochlorobenzene, 400 lb. bbls.....lb.	.15	.16	.16	.15
1917	.32	.32	.32	Dinitronaphthalene, 350 lb bbls .....lb.	.32	.34	.34	.32
1918	.31	.31	.31	Dinitrophenol, 350 lb bbls....lb.	.31	.32	.32	.31
1918	.18	.15	.17½	Dinitrotoluene, 300 lb bbls....lb.	.18	.19	.19	.18
.....	1.05	.85	.88	Diorthotolyguanidine, 275 lb bbls wks.....lb.	.48	.49	.90	.48
1918	.48	.45	.45½	Diphenylamine.....lb.	.45	.47	.47	.45
.....	.....	.....	.....	Diphenylguanidine, 100 lb bbl.lb.	.40	.41	.72	.40
.....	.26	.26	.26	Dip Oil, 25% drums.....lb.	.26	.30	.30	.26
45.00	49.00	41.00	45.25	Divi Divi pods, bgs shipmt...ton	.....	60.00	62 00	60.00
.02½	.04	.04	.04	Extract.....lb.	.05	.05½	.05½	.05
1918	.84	.72	.67½	Egg Yolk, 200 lb cases.....lb.	.74	.75	.77	.73
1.00	2.00	1.75	1.87½	Epsom Salt, tech, 300 lb bbls c-1 NY.....100 lb.	1.70	1.75	1.75	1.70
.22	.45	.37	.43	Esther, USP, 1880, 50 lb drs..lb.	.37	.38	.38	.37
.....	.90	.90	.90	Ethyl Acetate, 85% Ester, 110 gal drs.....gal.	.82	.87	.82	.75
.....	1.10	1.03	1.08	99%, gal drums.....gal.	.....	1.10	1.10	1.10
.....	1.05	1.05	1.05	Benzylaniline, 300 lb drs...lb.	1.05	1.11	1.11	1.05
.....	.50	.50	.50	Bromide, tech, drums.....lb.	.....	.70	.70	.70
.....	.22	.22	.22	Chloride, 200 lb. drums....lb.	.....	.22	.22	.22
.....	3.50	3.50	3.50	Lactate, drums works.....lb.	.30	.35	3.50	3.50
1918	.30	.30	.30	Methyl Ketone, 50 gal drs..lb.	.....	.30	.30	.30
.....	.45	.45	.45	Oxalate, drums works.....lb.	.45	.55	.55	.45
.....	.....	.....	.....	Oxybutyrate, 50 gal drs. wks. lb.	.30	.36	.36	.30
.....	.70	.70	.70	Ethylene Bromide, 600 lb dr..lb.	.....	.70	.70	.70
.....	.75	.75	.75	Chlorhydrin, anhydrous, 50 gal drums.....lb.	.75	.85	.85	.75
.....	.15	.11	.11½	Dichloride, 50 gal drums...lb.	.07	.10	.11	.07
.....	.30	.30	.30	Glycol, 50 gal drs wks.....lb.	.27	.30	.40	.25
.....	.....	.....	.....	Mono Butyl Ether drs. wks.	.27	.31	.27	.31
.....	.....	.....	.....	Mono Ethyl Ether drs. wks.	.20	.24	.20	.24
.....	.....	.....	.....	Mono Ethyl Ether Acetate dr. wks.....	.23	.26	.23	26.
1918	.62	.62	.62	Ethylidenaniline.....lb.	.62	.65	.65	.62
8.00	20.00	20.00	20.00	Feldspar, bulk.....ton	20.00	25.00	25.00	20.00
.....	15.00	15.00	15.00	Powdered, bulk works.....ton	15.00	21.00	21.00	15.00
.....	.07½	.07½	.07½	Ferric Chloride, tech, crystal 475 lb bbls.....lb.	..07½	.09	.09	.07½

News Notes

ISCO CHEMICALS ESTABLISHED 1816

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1816 JUNE, 1928 1928

DEMAND FOR CHEMICALS CONTINUES GOOD

We have now been able to make a fairly complete analysis of business in the chemical and allied fields for the first five months of the year 1928, and by comparison with the same period last year, we note quite an improvement. The volume of sales is considerably better, and due to a number of contributing factors, we are pleased to say that the net results are decidingly more favorable. We feel that the buyer of industrial chemicals and allied products to-day views the future with considerably more optimism than has been expressed over the past two or three years. He seems to be willing to buy a little further ahead, which results in eliminating to a considerable extent the policy of hand to mouth buying, which has been practiced more or less generally since the close of the world war.

This policy has had its advantages as well as its disadvantages. From the supplier's point of view it certainly has been more costly, but nevertheless we can appreciate the consumer's point of view in not wishing to load up too much on supplies of raw material when he was not sure just what the future would bring forth.

In order, therefore, to take care of customers' needs, and at the same time not to cover ourselves for supplies in excess of our customers' requirements, it has been necessary to do some very careful planning, and we are pleased to say that we have arranged for ample stocks to be carried at all times at all our distributing points, so that we can serve our customers with the least delay possible, at the same time giving them the advantages of geographically convenient shipping points, with the consequent freight savings, quick deliveries, etc.

No inquiry is too large and none too small. Our customers' needs after all are our needs; their problems—our problems, and we are, therefore, most desirous of establishing and maintaining close working relations with our trade.

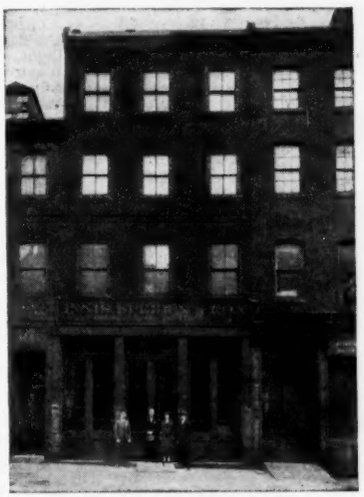
There is a good seasonal demand for fertilizing and insecticide chemicals at this time principally among which are:

Naphthalene Flakes and Balls
Arsenic
Arsenic Acid
Sulphate and
Muriate of Potash
Nitrate of Potash and Soda

and other chemicals used in these industries. Ample stocks are being maintained at all times.

SIXTY YEARS AGO

After fifty-two years of business this Company with its dyewood mill at Poughkeepsie and its New York sales and import office was emerging from the chaotic conditions resultant of the Civil War. George Innis was then the sole owner of the business, having acquired Howland Sherman's share upon the latters death. George Innis was also President of the Fallkill National Bank of Poughkeepsie, a founding director of the Park National Bank and director of the Fourth National Bank of New York, and was active in many other projects of public and business nature.



INNIS, SPEIDEN & CO.
Branch Office and Warehouse
219 South Front Street, Philadelphia, Pa.
Centrally located to piers and railroads for convenience in distributing our customers' orders.

EDITORIAL

Millions of Dollars are tied up in inventories needlessly in factories and in wholesale stocks because of faulty planning. Good planning reduces bank loans and need of new financing—saves interest, storage and insurance costs, depreciation and obsolescence. Reduces overhead—expedites orders—satisfies customers and increases sales.

We study our customers' requirements—endeavor to have on hand their requirements when they want them. Orders placed ahead aids our planning and our ability to serve. This co-operation helps consumer and seller alike by cutting the cost of distribution, the greatest red figure item in American business. Let's co-operate!

In 1866 Messrs. Graebe and Lieberman, two German chemists, first prepared a synthetic madder (alizarine).

In 1861—Solvay successfully carried out the Ammonia Soda Process and Glover introduced the Tower named after him into the manufacture of Sulphuric Acid.

In 1866 the first Atlantic Cable was laid.

In March, 1868, President Andrew Johnson was tried before the Senate, sitting as a court of impeachment in the famous case of the United States vs. Andrew Johnson, President. The President was acquitted of the charges preferred against him in the articles of impeachment exhibited against him by the House of Representatives.

In 1868 Louis Pasteur was given the degree of M.D. by the University of Bonn for his work on Micro-organisms.

General Lee, the idolized Confederate General had become the head of Washington College in Lexington. By example and precept he strove to induce people to accept new conditions and forget the bitterness of the war.

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Casein — Weakness continues to prevail here although no further price reductions are reported in standard ground which is still quoted at 15c @ 15½c lb. This condition is due to the fact that it is proving especially difficult to liquidate the large stocks which are on hand in the Argentine market.

Chlorine — The market is being well maintained on the strength of good contract withdrawals. Actual spot sales are not so good as they might be but the total volume to date for the year is something in excess of 1927. There has not been any price movement during the month.

Copper Sulfate — Sellers are quite satisfied with the volume of business done during the past month. It is possible that the advance to $5.30 100 lbs. has retarded business somewhat during the past few weeks, but this is not distasteful to sellers as they prefer having the business spread out over a longer period. The trend seems to be toward all year round buying as the demand started earlier this season, and based on those sections not heard from yet it should continue until later than former years. Business consummated in the section comprising Pennsylvania, New Jersey and Delaware has been most satisfactory and heavy shipments to the New England states are expected almost daily. The high price of raw materials still precluded the possibility of imported competition for this season at least.

Dextrin — Although the grain market has eased off somewhat during the past month, no changes in prices of corn dextrin have as yet materialized. The market remains steady and trading continues on a stable basis at quoted figures Tapioca and potato dextrins also continue unchanged in price in a steady market.

Diphenylguanidine — Since the drastic reduction on price last month brought on by the invalidating of the Weiss patent, there has not been any striking activity in the market. Consumption is about normal and the price has not shown a further change.

Divi-Divi — Prices have declined $1 @ $2 a ton since last reported due to the fact that arrivals from Central America and other points have been coming in in good quantity. Quotations are now at $60 per ton in a firm market with considerable activity reported.

Egg Yolk — Although prices are unchanged at 74c @ 75c lb., the market is strong due to the same factors which have influenced the egg albumen market. These are the contract season now effective here, strong conditions prevailing in the Chinese market, and the recent rise in the Chinese rate of exchange.

1914	1927				Current	1928	
July	High	Low	Aver.		Market	High	Low
2.80	5.60	4.15	4.69	Fish Scrap, dried, wks.....unit	..... 5.25&10	Nom.	5.25&10
				Acid, Bulk 7 & 3½% delivered			
2.50	3.50	4.24	3.56¼	Norfolk & Balt. basis...unit	..... Nom.	Nom.	Nom.
.40	1.10	.90	1.01¼	Flavine, lemon, 55 lb cases...lb.	1.10 1.15	1.15	1.10
.40	1.10	.85	.89	Orange, 70 lb cases.....lb.	1.10 1.15	1.15	1.10
.....				Flavseed.....lb.			
.....	25.00	25.00	25.00	Fluorspar, 95%, 220 lb bags...lb.	....	.....	.....
.....	.....	.....	.....	Ex-dock.....ton	....	.....	.....
				Formaldehyde, aniline, 100 lb.	..... 25.00	25.00	25.00
.....	.39	.39	.39	drums.....lb.	.39 .42	.42	.39
.08¼	.11¼	.08¾	.10	USP, 400 lb bbls 1c-1 wks...lb.	.08½ .09	.09	.08¼
.....	.02½	.02½	.02½	Fossil Flour.....lb.	.02½ .04	.04	.02½
.....	15.00	15.00	15.00	Fullers Earth, bulk, mines...ton	15.00 20.00	20.00	15.00
.....	25 00	25.00	25.00	Imp, powd c-1 bags.....ton	25.00 30.00	30.00	25.00
.....	.17½	.17½	.17½	Furfural, 500 lb drums.....lb.	.17½ .19½	.19½	.17½
1.10	1.69	1.35	1.59	Fusel Oil, 10% impurities....gal.	..... 1.35	1.35	1.35
.01½	.04	.04	.04	Fustic, chips.....lb.	.04 .05	.05	.04
.....	.20	.20	.20	Crystals, 100 lb boxes.....lb	.20 .22	.22	.20
.06	.09	.09	.09	Liquid, 50°, 600 lb bbls....lb.	.09 .10	.10	.09
.08	.20	.20	.20	Solid, 50 lb boxes.....lb.	.20 .23	.23	.20
12.00	30.00	30.00	30.00	Sticks.....ton	30.00 32.00	32.00	30.00
1918	.50	.50	.50	G Salt paste, 360 lb bbls.....lb.	.50 .52	.52	.50
.12	.20	.20	.20	Gall Extract.....lb.	.20 .21	.21	.20
.04½	.08	.06	.....	Gambier, common 200 lb cs...lb.	.08 .09	.09	.08
1917	.12	.12	.12	25% liquid, 450 lb bbls....lb.	.12 .14	.14	.12
.05½	.23	.11	.17	Singapore cubes, 150 lb bg..lb.	.11 .12	.12	.11
.....	.45	.30	.43½	Gelatin, tech, 100 lb cases....lb.	.45 .50	.50	45
.....	3.14	3.14	3.14	Bags, c-1 NY.....100 lb.	3.14 3.24	3.24	3.14
				Glauber's Salt, tech, 250 lb bags			
.60	1 05	1.05	1.05	c-1 wks.....100 lb.	.70 1.05	1.05	.70
				Glucose (grape sugar) dry 70-			
.....	3.24	3.24	3.24	80° bags c-1 NY....100 lb.	3.24 3.34	3.34	3.24
				Tanner's Special, 100 lb bags			
.....	3.14	3.14	3.14	.....100 lb.	..... 3.14	3.14	3.14
.12	.20	.20	.20	Glue, medium white, bbls....lb.	.20 .24	.24	.20
.18	.22	.22	.22	Pure white, bbls.....lb.	.22 .26	.26	.22
.19½	.29	.22	.24	Glycerin, CP, 550 lb drs.....lb.	.15 .15½	.19	.15
.19½	.25	.17	.21½	Dynamite, 100 lb drs.....lb.	.12½ 12½	.15	.11½
.....	.....	.....	.....	Saponification, tanks.....lb.	.08½ .08¾	.10½	.08½
.....	.....	.....	.....	Soap Lye, tanks.....lb.	.07½ .07¾	.09½	.07½
.....	15.00	15.00	15.00	Graphite, crude, 220 lb bgs..ton	15.00 35.00	35.00	15.00
.....	.05	.05	.05	Flake, 500 lb bbls.....lb.	.06 .09	.09	.06
				Gums			
				Gum Accroides, Red, coarse and			
.....	.03¾	.03¾	.03¾	fine 140-150 lb bags....lb.	.03¾ .04¼	.04¼	.03¾
.....	.06	.06	.06	Powd, 150 lb bags.....lb.	.06 .06¼	.06¼	.06
.....	.18	.18	.18	Yellow, 150-200 lb bags..lb.	.18 .20	.20	.18
				Animi (Zanzibar) bean & pea			
.25	.40	.35	.39	250 lb cases.....lb.	.35 .40	.40	.35
.....	.60	.50	.57½	Glassy, 250 lb cases.....lb.	.50 .55	.55	.50
				Asphaltum ,Barbadoes			
.05	.09	.09	.09	(Manjak) 200 lb bags..lb	.09 .12	.12	.09
.15	.15	.15	.15	Egyptian, 200 lb cases.....lb.	.15 .17	.17	.15
				Gilsonite Selects, 200 lb bags			
36.00	55.00	55.00	55.00	.....ton	58.00 65.00	65.00	55.00
				Damar Batavia standard 136,			
.17½	.26½	.26½	.25	lb cases.....lb.	.23 .23½	.23½	.23
.....	.10½	.07	.10	Batavia Dust, 160 lb bags..lb.	.10½ .11	.11	.10½
.....	.18½	.17½	.18½	E Seeds, 136 lb cases....lb.	.17 .17½	.17½	.17
				F Splinters, 136 lb cases and			
.....	.14	.09	.13	bags.....lb.	.14 .14¼	.14½	.14
.....	.34	.33½	.34	Singapore, No. 1, 224 lb caselb.	.30 .30½	.30½	.30
.14	.22½	.21	.22½	No. 2, 224 lb cases.....lb.	.22 .23	.23	.20
.08	.14	.11	.12	No. 3, 180 lb bags.....lb.	.14 .15	.15	.14
				Benzoin Sumatra, technical, 120			
.34	.35	.30	.30	lb cases.....lb.	.33 .35	.35	.33
				Copal Congo, 112 lb bags, clean			
.....	.14	.12	.13	opaque.....lb.	.14 .15	.15	.14
.12	.08¾	.08¾	.08¾	Dark, amber.....lb.	.08½ .09	.09	.08¾
.18	.12½	.12½	.12½	Light, amber.....lb	.12½ .14	.14	.12½
.25	.35	.35	.35	Water white.....lb	.35 .36	.36	.35
				Mastic.....lb.	.58 .60	.60	.58
				Manila, 180-190 lb baskets			
.15	.16	.16	.16	Loba A.....lb.	.16 .16½	.16½	.16
.....	.15	.15	.15	Loba B.....lb.	.15 .15½	.15½	.15
.....	.14½	.13	.13¾	Loba C.....lb.	.13 .13½	.13½	.13
.....	.16	.16	.16	Pale bold, 224 lb cs.....lb.	.16 .18	.18	.16
.08½	.14	.12	.13	Pale nubs.....lb.	.12 .12½	.12½	.12
.....	.07½	.07½	.07½	East Indies chips, 180lb bagslb.	.08 .08½	.08½	.07½
.....	.....	.....	.....	Pale bold, 180 lb bags.. .lb.	.17 .17½	.17½	.17
.....	.17	.17	.17	Pale nubs.....lb.	.14 .14½	.14½	.14
.....	.....	.....	.....	Pontianak, 224 lb cases....lb.			
.13½	.29	.25	.26½	Pale bold gen No. 1.....lb.	.25 .25½	.25½	.25
.07	.19	.13	.15½	Pale gen chips spot.....lb.	.13 .14½	.14½	.13
.....	.14	.13	.13½	Elemi, No. 1, 80-85 lb cs...lb.	.13½ .14	.14	.13
.....	.13	.12	.12½	No. 2, 80-85 lb cases.....lb.	.13 .13½	.13½	.13
.....	.13	.11	.11	No. 3, 80-85 lb cases.....lb.	.12 .13	.13	.12
				Kauri, 224-226 lb cases No. 1			
.50	.67½	.57	.63½	.....lb.	.50 .57	.57	.50
.32	.44½	.38	.41	No. 2 fair pale.....lb.	.35 .38	.38	.35
				Brown Chips, 224-226 lb			
.07½	.14½	.10	.12	cases.....lb.	.10 .12	.12	.10
.....	.42	.38	.40	Bush Chips, 224-226 lb			
				cases.....lb.	.38 .40	.40	.38
				Pale Chips, 224-226 lb cases			
.....	.31½	.24½	.25	.....lb.	.24½ .26	.26	.24½
				Sandarac, prime quality, 200			
.19	.27	.25	.25	lb bags & 300 lb casks...lb.	.26 .27	.27	.26
1917	.12	.12	.12	Hematine crystals, 400 lb bbls.lb.	.17 .20	.20	.17
1917	.09	.09	.09	Paste, 500 bbls.....lb	..... .11	.11	.11
.02¾	.03½	.03½	.03½	Hemlock 25%, 600 lb bbls wks lb.	.03½ .03¾	.03¾	.03½
.....	16.00	16.00	16.00	Bark.....ton	..... 16.00	16.00	16.00
.....	.60	.45	.56	Hexalene, 50 gal drs wks.....lb.	..... .60	.60	.60
.....	.80	.62	.72	Hexamethylenetetramine, drs.lb.	.62 .65	.65	.62
2.60	3.35	2.75	3.08	Hoof Meal, fob Chicago.....unit	....	.....	.....

Know Acetaldehyde

99.9% Pure CH_3CHO

Packing

Insulated Tank Cars

110 Gallon Drums
650 lbs.

55 Gallon Drums
325 lbs.

10 Gallon Drums
60 lbs.

5 Gallon Drums
30 lbs.

Cylinders 5 lbs.

THE availability of this active and interesting compound in commercial quantities at a low price gives a new, valuable material to chemical manufacturers. You should know its properties and uses; it may be highly important to your business.

Briefly and without going into technical details NIACET acetaldehyde enters into direct addition, condensation and substitution reactions. By combinations with a wide variety of chemicals it produces dyes, lacquer solvents, rubber accelerators and antioxidants of exceptional merit, and a whole series of synthetic resins, gums and shellacs--groups of products of great commercial interest to-day.

In these days of rapid change and pressing competition every possibility of making new products or old products by new, cheaper methods is of vital importance. NIACET acetaldehyde may have a big place in your chemical future. It will pay you to investigate it. Our technical staff's experience is available for consultation or co-operation with your own chemists.

Niacet Products

Acetaldol
Acetaldehyde
Crotonaldehyde
Paraldehyde

NIACET CHEMICALS CORPORATION

Niagara Falls
NEW YORK

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Ethyl Acetate — In sympathy with the advance in the alcohol market the price of ethyl acetate has been advanced. With a fair demand business is being booked at the new levels of 82c gal. in tanks and 84c @ 87c gal. in lesser quantities.

Epsom Salts — Interest in the technical grade is extremely routine. The textile industry is buying practically nothing and the market is thoroughly routine and subject to shading whenever an order is actually consummated.

Fish Scrap — Although the fishing season has not yet opened there has been considerable buying in futures on scrap. Dried is quoted at $5.25 & 10 per unit at the works in a strong market.

Glauber Salts — The market during the past four weeks has shown but little change, and that trend has been downward. Textile buyers show little or no interest and with severe competition between importers and domestic manufacturers, quotations are subject to sharp shadings. The market in the Metropolitan district which had been somewhat better than that prevailing in New England, is also now very weak as a result of an almost entire lack of interest on the part of buyers in this territory.

Glycerin — The market on all grades is practically unchanged for the month. Sellers seem a bit more determined to maintain the market which they quote at 12½c lb. for dynamite. It is evident that this figure could be shaded on an actual buying order, but there is a great dearth of consuming interest of any sort. Also, foreign sellers are again making an effort to enter this market and cable advices indicate that they will at least meet this level of 12½c lb. This practically eliminates any thought of a further advance in domestic regardless of the conditions prevailing here. Crude and saponification are in much the same position with the former quoted at 7½c @ 7¾c lb. and the latter at 8⅜c @ 8½c lb. though foreign competition on these grades is not to be feared at these levels.

Gums — Quoted prices have remained unchanged in the face of fair demand. During the month, Mastic has sold at above quoted figures and Elemi below, but these were said to be merely temporary conditions due to unusual competition.

Lead Arsenate — Activity here has practically ceased with the exception of some replacement business. Makers are maintaining schedule prices.

Mangrove Bark — Arrivals from Africa reinforcing stocks have led to a decline in price of $3 per ton during the past month. Quotations are now at $42 per

1914 July	1927 High	1927 Low	1927 Aver.		Current Market		1928 High	1928 Low
.....	3.90	3.00	3.57	South Amer. to arrive....unit	.....	.....	.....	.....
				Hydrogen Peroxide, 100 vol, 140 lb cbys.....lb.	.24	.26	.26	.24
.....	.30	.22	.24	Hpyernic, 51°, 600 lb bbls....lb.	.12	.15	.15	.12
1917	.12	.12	.12	Indigo Madras, bbls.....lb.	1.28	1.30	1.30	1.28
.58	1.28	1.20	1.27	20% paste, drums.....lb.	.14	.15	.15	.14
.....	.14	.14	.14	Solid, powder.....lb.	.07½	.08	.08	.07½
.....	.07½	.07½	.07½	Iron Chloride, see Ferric or Ferrous				
.04	.09	.09	.09	Iron Nitrate, kegs.....lb.	.09	.10	.10	.09
1.12½	2.50	2.50	2.50	Coml, bbls.....100 lb.	2.50	3.25	3.25	2.50
.....	.10	.10	.10	Oxide, English.....lb.	.10	.12	.12	.10
.....	.02½	.02½	.02½	Red, Spanish.....lb.	.02½	.03¼	.03¼	.02½
.....	.85	.85	.85	Isopropyl Acetate, 50 gal drs. gal.	.85	.90	.90	.85
.11½	.29	.17	.19	Japan Wax, 224 lb cases.....lb.	.17½	.18	.19	.17½
.....	60.00	60.00	60.00	Kieselguhr, 95 lb bgs NY....ton	60.00	70.00	70.00	60.00
.....	14.00	13.00	13.33	Lead Acetate, bbls wks...100 lb.				
9.12½	14.00	13.00	13.33	White crystals, 500 lb bbls wks.....100 lb.	13.00	13.50	13.50	13.00
.04¼	.15½	.13½	.13	Arsenate, drs 1c-1 wks.....lb.	.13	.15	.15	.13
3.90	7.80	6.20	6.78	Metal, c-l NY.....100 lb.	.....	6.10	6.25	6.25
.07¾	.14	.14	.14	Nitrate, 500 lb bbls wks....lb.	.....	.14	.14	.14
.17½	.17½	.17½	.17½	Oleate, bbls.....lb.	.17½	.18	.18	.17½
.....	.10½	.08½	.09	Oxide Litharge, 500 lb bbls..lb.	.....	.08½	.08¼	.08½
.05½	.11½	.09½	.10	Red, 500 lb bbls wks.....lb.	.....	.09½	.09¼	.09½
.05½	.09¼	.09	.09¼	White, 500 lb bbls wks...lb.	.....	.09	.09	.09
.05	.09	.08¼	.08¼	Sulfate, 500 lb bbls wk...lb.	.....	.08½	.08½	.08¼
.....	4.50	4.50	4.50	Lime, ground stone bags....ton	.....	4.50	4.50	4.50
.....	1.05	1.05	1.05	Live, 325 lb bbls wks..100 lb.	.....	1.05	1.05	1.05
				Lime Salts, see Calcium Salts				
1918	.15	.15	.15	Lime-Sulfur soln bbls.....gal.	.15	.17	.17	.15
				Lithopone, 400 lb bbls 1c-1 wks .....lb.	.....	.06½	.06½	.06½
.03¾	.06½	.06½	.06½	Logwood, 51°, 600 lb bbls.....lb.	.08½	.08¾	.08¾	.08½
.05	.08½	.08½	.08½	Chips, 150 lb bags.....lb.	.03	.03¾	.03¾	.03
.01½	.03	.03	.03	Solid, 50 lb boxes.....lb.	.....	.12½	.12¾	.12½
.06	.12	.12	.12	Sticks.....ton	26.00	27.00	27.00	26.00
15.00	26.00	26.00	26.00	Lower grades.....lb.	.07½	.08	.08	.07½
.....	.07½	.07½	.07½	Madder, Dutch.....lb.¾	.....	.30	.30	.30
.12	.30	.30	.30	Magnesite, calc, 500 lb bbl..ton	48.00	50.00	50.00	48.00
30.00	48.00	48 00	48.00					

Magnesium

				Magnesium Carb, tech, 70 lb bags NY.....lb.	.06	.06½	.06½	.06
1918	.06½	.06	.06	Chloride flake, 375 lb drs c-1 wks.....ton	.....	37.00	37.00	37.00
.....	37.00	37.00	37.00	Imported shipment...ton	.....	33.00	33.00	33.00
.....	33.00	33.00	33.00	Fused, imp, 900 lb bbls NY ton	.....	31.00	31.00	31.00
.....	31.00	31.00	31.00	Fluosilicate, crys, 400 lb bbls wks.....lb.	.10	.10½	.10½	.10
.....	.10	.10	.10	Oxide, USP, light, 100 lb bbls .....lb.	.....	.42	.42	.42
.....	.42	.42	.42	Heavy, 250 lb bbls.....lb.	.....	.50	.50	.50
.....	.50	.50	50	Silicofluoride, bbls.....lb.	.09½	.10½	.10½	.09½
.....	.12½	.09½	.11½	Stearate, bbls.....lb.	.23	.25	.25	.23
.....	.23	.23	.23	Manganese Borate, 30%, 200 lb bbls.....lb.	.....	.24	.24	.24
.20	.24	.24	.24	Chloride, 600 lb casks.....lb.	.08	.08½	.08½	.08
.06	.08	.08	.08	Dioxide, tech (peroxide) drs.lb.				
.....	.05	.04½	.04¼	Ore, powdered or granular	.35	.40	.50	.35
.....	.03	.03	.03	75-80%, bbls.....lb.	.03	.03½	.03½	.03
.....	.04	.04	.04	80-85%, bbls.....lb.	.04	.04½	.04½	.04
.....	.05	.05	.05	85-88%, bbls.....lb.	.05	.05½	.05½	.05
.....	.07	.07	.07	Sulfate, 550 lb drs NY.....lb.	.07	.07½	.07½	.07
.....	.03½	.03½	.03½	Mangrove 55%, 400 lb bbls...lb.	.03½	Nom.	Nom.	.03½
.....	39.00	34.00	37.54	Bark, African.....ton	.....	42.00	45.00	40.00
8.00	10.00	10.00	10.00	Marble Flour, bulk.....ton	10.00	12.00	12.00	10.00
1916	129.00	99.00	119.09	Mercury metal.....75 lb flask	124.50	125.50	127.50	121.00
1918	.72	.72	.72	Meta-nitro-aniline .....lb.	.72	.74	.74	.72
1918	1.70	1.70	1.70	Meta-nitro-para-toluidine 200 lb bbls.....lb.	1.70	1.80	1.80	1.70
1918	.90	.90	.90	Meta-phenylene-diamine 300 lb bbls.....lb.	.90	.94	.94	.90
1918	.72	.72	.72	Meta-toluene-diamine, 300 lb bbls.....lb.	.72	.74	.74	.72
.4	.....	.....	.....	Methanol, (Wood Alcohol), drs				
.45	.80	.55	.69	95%.....gal.	.46	.50	.55	.46
.50	.87	.57	.74½	97%, drums 1c-1.....gal.	.47	.50	.57	.47
.....	.....	.....	.....	Pure, drums 1c-1.....gal.	.44	.48	.58	.44
.....	.....	.....	.....	Synthetic, drums 1c-1.....gal.	.48	.50	58	.48
.....	.80	.75	.78	Denat. grd. tanks.....gal.	.45	.47	.75	.45
.....	.95	.95	.95	Methyl Acetate, drums.....gal.	.....	.95	.95	.95
.....	.88	.75	.66	Acetone, 100 gal drums...gal.	.73	.78	.80	.73
.....	1.00	.85	.92½	Anthraquinone, kegs.....lb.	.85	.95	.95	.85
.....	.55	.55	.55	Chloride, 90 lb cyl.....gal.	.55	.60	.60	.55
.....	.03½	.03½	.03½	Mica, dry grd. bags wks.....lb.	65.00	80.00	80.00	65.00
.....	.05½	.05½	.05½	Wet, ground, bags wks.....lb.	110.00	115.00	115.00	110.00
.....	3.00	3.00	3.00	Michler's Ketone, kegs.....lb.	....	3.00	....	....
				Monochlorobenzene, drums see, Chlorobenzene, mono.....lb.				
.....	.70	.70	.70	Monoethylorthotoluidin, drs..lb.	.70	.75	.75	.70
1918	1.05	1.05	1.05	Monomethylaniline, 900 lb dr .....lb.	.....	1.05	1.05	1.05
.....	3.95	3.95	3.95	Monomethylparaminosulfate 100 lb drums.....lb.	3.95	4.20	4.20	3.95
.06½	.06½	.06½	.06½	Montan Wax, crude, bags....lb.	.06½	.07	.07	.06½
.....	.04	.04	.04	Myrobalans 25%, liq bbls.....lb.	.04½	.04½	.04½	.04½
.....	.08	.08	.08	50% Solid, 50 lb boxes.....lb.	.08	.08½	.08½	.08
27.00	43.50	41.00	42.00	J 1 bags.....ton	44.00	45.50	50.00	42.50
27.00	37.00	23.50	35.24	J 2 bags.....ton	.....	38.00	40.00	34.50
27.00	37.00	30.00	36.62	R 2 bags.....ton	.....	38.00	40.00	34.50
.10	.21	.18	.19¾	Naphtha, v. m. & p. (deodorized) bbls.....gal.	.....	.18	.18	.18

AMERICAN COMMERCIAL ALCOHOL CORPORATION

Executive Offices

420 Lexington Avenue

NEW YORK

Announcement

As a result of the consolidation of the American Distilling Co., Pekin, Illinois, the David Berg Industrial Alcohol Co., Philadelphia, and the S. M. Mayer Alcohol Co., Inc., Gretna, La., on April 25, 1928, the American Commercial Alcohol Corporation has acquired all of the plants, assets and good will of the former owners.

The new company will have complete facilities for the production of Alcohol from both molasses and grain, having its own facilities for the gathering of molasses in Cuba and its transportation to the Philadelphia and New Orleans plants. The Pekin, Illinois plant, in the heart of the corn belt, is ideally located for the production of Pure Grain Alcohol.

With distributing facilities in all principal cities, the new company is prepared to supply alcohol of every quality for any industrial or commercial purpose and to furnish complete warehouse service to all sections of the country.

The management of the new company will remain with the officers of the former companies and the sale and distribution of its product will be through the same personnel as heretofore.

We wish to thank our many friends for their past patronage and hope, through our combined efforts, in the future to merit a continuance of their good will.

PHILIP PUBLICKER, *Chairman of the Board*
RICHARD H. GRIMM, *President*
S. M. MAYER, *Vice-president*

AMERICAN COMMERCIAL ALCOHOL CORPORATION

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

ton in a firm market with satisfactory movement into consuming channels.

Mercury — The price has advanced over the month to $124.50 @ $25.50 flask though the advance certainly was not predicated on any great demand. Consuming interest has been very light and only the suspension of operations by both Spanish and Italian mines has served to keep the market at its present level. Stocks held by mining interests and dealers on the other side are known to be large and it was probably deemed advisable to dispose of some accumulated stocks before continuing with the regular production. Government figures show an increase of about 50% in American production during 1927 which was to be expected in view of the high market on imported. This increase in domestic production is not viewed with alarm by importing dealers here.

Methanol — Rather sharp competition continues quite apparent in this market and sellers admit that the position is undoubtedly easy. Quotations over the month remained at 46c gal for 95%, 45c gal. for denatured and 48c gal. for synthetic with a strong likelihood of these figures being shaded on actual business. Buyers are not evidencing any added interest in the market.

Methyl Acetone — Has been subject to severe competition in all quarters and producers now name an open price of 73c gal. in good sized quantities. Buying is restricted at these levels and some business has proabably been placed at something under this level.

Myrobalans — Reports from India indicate that stocks there are limited and the quality unsatisfactory. The market here has been strong with advance of $2 per ton in both J2 and R2 grades, which are now quoted at $38 per ton. There have been large quantities of arrivals during the past month but all had already been contracted for and consequently there was no effect upon the market.

Nitrogenous Material — Buying has been in fairly large volume during the past month and as a result, prices have advanced to $3.65 per unit.

Phenol — While sellers do not care to commit themselves as to the actual market prevailing at present, leading producers are known to have large stocks and with consuming demand in its present routine shape an order at 13c lb. would be taken without hesitation. Contending that the market is practically nominal, makers do not care to name a definite figure, but indications point to a lower market.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
				Naphthalene balls, 250 lb bbls			
.02¾	.06	.05½	.05¾	wks.....lb.	.....	.05½	.06 .05½
.....	.04½	.04½	.04½	Crushed, chipped bgs wks..lb.	.....	.04½	.04½ .04½
.02¾	.05	.04½	.04¾	Flakes, 175 lb bbls wks....lb.	.....	.05	.05 .05
.....	.21	.21	.21	Nickel Chloride, bbls kegs....lb.	.21	.24	.24 .21
1918	.35	.35	.35	Oxide, 100 lb kegs NY.....lb.	.35	.38	.38 .35
1918	.09	.08½	.08¾	Salt dbl, 400 lb bbls NY....lb.	.09	.09¾	.09¾ .09
1918	.08¾	.08	.08½	Single, 400 lb bbls NY.....lb.	.08¾	.09	.09 .08¾
				Nicotine, free 40%, 8 lb tins,			
.....	1.25	1.10	1.24	cases.....lb.	1.25	1.30	1.30 1.25
.....	1.10	1.10	1.10	Sulfate, 10 lb tins.....lb.	1.10	1.15	1.15 1.10
.....	13.00	13.00	13.00	Nitre Cake, 500 lb bbls.....ton	13.00	14.00	14.00 13.00
				Nitrobenzene, redistilled, 1000			
.06½	.10½	.09½	.09½	lb drs wks.....lb.	.10½	.10½	.10½ .10½
				Nitrocellulose, regular drums			
.....	.40	.40	.40	wks.....lb.	.40	Nom.	Nom. .40
				Low viscosity (soln only)			
.....	.55	.55	.55	Grade 1 drums, wks.....lb.	.55	Nom.	Nom. .55
.....	.50	.50	.50	Grade 2 drums, wks.....lb.	.50	Nom.	Nom. .50
3.05	3.60	3.35	3.53	Nitrogenous Material, bulk..unit	.....	3.65	4.00 3.35
1918	.25	.25	.25	Nitronaphthalene, 550 lb bbls.lb.	.....	.25	.25 .25
1918	.14	.14	.14	Nitrotoluene, 1000 lb drs wks.lb.	.14	.15	.15 .14
.16	.25	.25	.25	Nutgalls Aleppy, bags.....lb.	.25	Nom.	Nom. .25
.15	.17	.17	.17	Chinese, bags.....lb	.17	.18	.18 .17
.....	.22	.22	.22	Powdered, bags.....lb	.22	.24	.24 .22
.08	.03½	.03½	.03½	Oak, tanks, wks.....lb	....	.03½	.03½ .03½
.08	.04	.04	.04	23-25% liq., 600 lb bbl wk .lb.	.04	.04½	.04½ .04
.....	45.00	45.00	45.00	Oak Bark, ground.....ton	45.00	50.00	50.00 45.00
.....	20.00	20.00	20.00	Whole.....ton	20.00	23.00	23.00 20.00
				Orange-Mineral, 1100 lb casks			
.07½	.14½	.13	.13½	NY.....lb.	.11½	12½	.13½ .13
.....	2.20	2.20	2.20	Orthoaminophenol, 50 lb kgs..lb.	2.20	2.25	2.25 2.20
.....	2.50	2.35	2.36½	Orthoanisidine, 100 lb drs....lb.	2.35	2.50	2.50 2.35
.....	.50	.50	.50	Orthochlorophenol, drums....lb.	.50	.65	.65 .50
.....	.18	.18	.18	Orthocresol, drums.....lb.	.18	.28	.28 .18
				Orthodichlorobenzene, 1000 lb			
1918	.06	.06	.06	drums.....lb	.06	.07	.07 .06
				Orthonitrochlorobenzene, 1200			
1918	.32	.32	.32	lb drs wks.....lb.	.32	.35	.35 .32
				Orthonitrotoluene, 1000 lb drs			
1918	.13	.13	.13	wks.....lb.	.17	.18	.18 .17
1918	.85	.85	.85	Orthonitrophenol, 350 lb dr...lb.	.85	.90	.90 .85
1918	.29	.25	.28	Orthotoluidine, 350 lb bbl 1c-1.lb.	.29	.31	.31 .29
				Orthonitroparachlorphenol, tins			
1918	.70	.70	.70	.....lb.	.70	.75	.75 .70
.....	.16	.16	.16	Osage Orange, crystals.....lb.	.16	.17	.17 .16
1918	.07	.07	.07	51 deg. liquid.....lb.	.07	.07½	.07 .07
.....	.14½	.14½	.14½	Powdered, 100 lb bags.....lb.	.14½	.15	.15 .14½
				Paraffin, refd, 200 lb cs slabs			
.04¾	.06½	.06½	.06½	123-127 deg. M. P.....lb.	.06½	.06¾	.06¾ .06½
.05¼	.07½	.07½	.07½	128-132 deg. M.P.....lb.	.07½	.07¾	.07¾ .07½
.06¼	.08	.08	.08	133-137 deg. M.P.....lb.	.08	.08½	.08½ .08
1918	.08¾	.08¾	.08¾	138-140 deg. M.P.....lb.	.08¾	.10	.10 .08¾
.....	.29	.26	.26½	Para Aldehyde, 110-55 gal drs.lb.	.20½	.23	.28 .20½
1918	1.00	1.00	1.00	Aminoacetanilid, 100 lb bg.lb.	1.00	1.05	1.05 1.00
				Aminohydrochloride, 100 lb kegs			
.....	1.25	1.25	1.25	.....lb.	1.25	1.30	1.30 1.25
.....	.15	.15	.15	Aminophenol, 100 lb kegs...lb.	.....	1.15	1.15 1.15
.....	.50	.50	.50	Chlorophenol, drums.....lb.	.50	.65	.65 .50
.....	.12	.12	.12	Coumarone, 330 lb drums..lb.	.....	.....	....
.....	2.25	2.25	2.25	Cymene, refd, 110 gal dr...gal.	2.25	2.50	2.50 2.25
				Dichlorobenzene, 150 lb bbls			
1918	.17	.17	.17	wks.....lb.	.17	.20	.20 .17
1918	.53	.50	.50½	Nitroacetanilid, 300 lb bbls.lb.	.50	.55	.55 .50
				Nitroaniline, 300 lb bbls wks			
1917	.52	.52	.52	.....lb.	.48	.49	.49 .48
				Nitrochlorobenzene, 1200 lb drs			
.....	.32	.32	.32	wks.....lb.	.....	.32	.32 .32
				Nitro-orthotoluidine, 300 lb			
1918	2.75	2.75	2.75	bbls.....lb.	2.75	2.85	2.85 2.75
1918	.50	.50	.50	Nitrophenol, 185 lb bbls....lb.	.50	.55	.55 .50
				Nitrosodimethylaniline, 120 lb			
.....	.92	.92	.92	bbls.....lb.	.92	.94	.94 .92
1918	.30	.25	.26	Nitrotoluene, 350 lb bbls...lb.	.....	.30	.30 .30
				Phenylenediamine, 350 lb bbls			
1918	1.20	1.15	1.18	.....lb.	1.15	1.20	1.20 1.15
				Toluenesulfonamide, 175 lb			
.....	.40	.40	.40	bbls.....lb.	.40	.41	.41 .40
				Toluenesulfonchloride, 410 lb			
.....	.20	.18	.19	bbls wks.....lb.	.20	.22	.22 .20
1918	.45	.38	.41	Toluidine, 350 lb bbls wk...lb.	.40	.42	.42 .40
				Paris Green, Arsenic Basis			
.11	.21	.21	.21	100 lb kegs.....lb.	.....	.25	.25 .20
.....	.19	.19	.19	250 lb kegs.....lb.	.....	.23	.23 .17
.12	.25	.25	.25	Persian Berry Ext., bbls.....lb.	.....	.....	....
.....	.02½	.02½	.02½	Petrolatum, Green, 300 lb bbl.lb.	.02½	.03	.03 .02½
1918	.18	.16	.17	Phenol, 250-100 lb drums.....lb.	.13	.20	.13 .20
				Phenyl - Alpha - Naphthylamine,			
1918	1.35	1.28	1.35	100 lb kegs.....lb.	.....	1.35	1.35 1.35
45.00	9.00	8.50	8.75	Phosphate Acid, 16% blk wks.ton	.....	9.00	9.00 9.00
				Phosphate Rock, f.o.b. mines	.....	.....	....
3.00	3.00	3.00	3.00	Florida Pebble, 68% basis..ton	3.00	3.15	3.15 3.00
2.00	3.50	3.50	3.50	70% basis.....ton	3.50	3.65	3.65 3.50
.....	4.00	3.85	3.96	72% basis.....ton	4.00	4.15	4.15 4.00
4.00	5.35	5.00	5.09	75-74% basis.....ton	.....	5.00	5.00 5.00
4.00	5.75	5.60	5.71½	75% basis.....ton	.....	5.75	5.75 5.75
5.75	6.25	6.00	6.19	77-76% basis.....ton	.....	6.25	6.25 6.25
4.50	5.50	5.00	5.12½	Tennessee, 72% basis.....ton	.....	5.00	5.00 5.00
				Phosphorous Oxychloride 175 lb			
.....	.35	.35	.35	cyl.....lb.	.35	.40	.40 .35
.45	.65	.60	.62	Red, 110 lb cases.....lb.	.60	.65	.65 .60
35	.32	.32	.32	Yellow, 110 lb cases wks.lb.	.....	.32	.32 .32
..	.46	.46	.46	Sesquisulfide, 100 lb cs.....lb.	.....	.46	.46 .46
....	.35	.35	.35	Trichloride, cylinders.....lb.	.....	.....	....
				Phthalic Anhydride, 100 lb bbls			
.....	.18	.18	.18	wks.....lb.	.18	.20	.20 .18

Prices Current and Comment

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Rosins — The early part of the past month found a great lack of buying interest with the result that prices dropped considerably. Since that time the market has become somewhat firmer, but there has been no competitive buying and in order to prevent accumulations, sellers have been content to fill demands without attempting to hold off in order to force higher prices. As a result, prices are between 30c per unit and $1.50 per unit lower than when last quoted. Dealers look for the market to continue to display that firmness which it has evidenced during the past two weeks, as shipments from both Savannah and Jacksonville have been heavy and stocks there are now less than they were a year ago.

Shellac — A report from India says that "firmness in the shellac market has been due largely to the continued scarcity of unsold stocks and to bear coverings for ready shipment contracts. A good average crop is being gathered and arrivals during May are expected to total 40,000 cases." This strength in the primary market has been reflected here where the market is very strong. The greatest price advance has been in bone dry, which has advanced 6½c lb. and is now quoted at 57½c @ 58c lb. Superfine and T. N. have each advanced 2c lb., now being quoted at 50c @ 51c lb. and 46c @ 47c lb. respectively. Garnet continues unchanged.

Soda Ash — As with all alkalies, business during the month has been quite good, though largely on contract withdrawals. These latter are fully up to expectations for the season.

Sodium Chlorate — The price named last month of 5¾c lb. for some points on the Northern Atlantic Seaboard still prevail. Sellers have established this level to fight imported competition and have been quite successful to date, getting practically all the anticipated business. Sale to points in the West are on the basis of 6¼c lb. f.o.b. works. Quite a volume of business is being done now with farm granges who are disposing of the chlorate to the farmers as a weed killer.

Sodium Nitrate — The market has been weak during the past month, apparently due to overabundant stocks. The same schedule of prices is still maintained, but the market for spot has been very irregular, especially in the South. While there have been but few sales, importers have been forced to meet resale competition. Despite valiant attempts to hold prices as close to $2.30 per 100 pounds as possible, some shading as low as $2.25 per 100 pounds, has been reported. Of chief interest during the month, was the announcement of the Chilean Govern-

1914 July	1927 High	1927 Low	1927 Aver.		Current Market		1928 High	1928 Low
.....	40.00	37.00	38 50	Pigments Metallic, Red or brown bags, bbls, Pa. wks.....ton	37.00	45.00	45.00	37.00
				Pine Oil, 55 gal drums or bbls				
1918	.63	.63	.63	Destructive dist.....lb.	.63	.64	.64	.63
.....	8.00	8.00	8.00	Prime bbls.....bbl.	8.00	10.60	10.60	8.00
.34	.70	.66	.69	Steam dist. bbls.....gal.	.....	.70	.70	.70
				Pitch Hardwood, ...				
37.50	40.00	40.00	40.00	wks.....ton	40.00	45.00	45.00	40.00
				Plaster Paris, tech, 250 lb bbls				
1.50	3.30	3.30	3.30	.....bbl.	.....	3.30	3.30	3.30
				Potash				
.04½	.07½	.07½	.07½	Potash, Caustic, wks.....lb.	.....	.07½	.07½	.07½
.....	.07½	.07½	.07½	Imported casks c-1.....lb.	.....	.07½	.07½	.07½
				Potash Salts, Rough Kainit				
8.36	9.00	9.00	9.00	12.4% basis bulk.....ton	.....	9.00	9.00	9.00
.....	9.50	9.50	9.50	14% basis.....ton	.....	9.50	9.50	9.50
				Manure Salts.....				
13.58	12.40	12.40	12.40	20% basis bulk.....ton	.....	12.40	12.40	12.40
.....	18.75	18.75	18.75	30% basis bulk .....ton	.....	18.75	18.75	18.75
				Potassium Muriate, 80% basis				
39.07	36.40	36.40	36.40	bags.....ton	.....	36.40	36.40	36.40
				Pot. & Mag. Sulfate, 40% basis				
25.04	27.00	27.00	27.00	bags.....ton	.....	27.00	27.00	27.00
				Potassium Sulfate, 90% basis				
47.57	47 30	47.30	47.30	bags.....ton	.....	47.30	47.30	47.30
				Potassium Bicarbonate, USP, 320				
.08	.09	.09	.09	lb bbls.....lb.	.09	.09½	.09½	.09
				Bichromate Crystals, 725 lb				
.06¾	.08¼	.08	.08¼	casks.....lb.	.09	.09½	.09¼	.08¾
.....	.12	.11	.11	Powd., 725 lb cks wks....lb.	.12¾	.13	.12¾	.12
.....	.16	.16	.16	Binoxiate, 300 lb bbls.....lb..	.16	.17	.17	.16
.....	.30	.30	.30	Bisulfate, 100 lb kegs.....lb.	.....	.30	.30	.30
				Carbonate, 80-85% calc. 800				
.03¾	.05¼	.05¼	.05¼	lb casks.....lb.	.05¼	.05¾	.05¾	.05¼
				Chlorate crystals, powder 112				
.07½	.08½	.08½	.08½	lb keg wks.....lb.	.08½	.09	.09	.08½
				Potassium Chlorate, Imp 112 lb				
.....	.08¾	.08¼	.08¼	kegs NY.....lb.	.07½	.08¼	.08¼	.07¾
	.05¼	.05¼	.05¼	Chloride, crys bbls.....lb.	.05¾	.05½	.05½	.05¼
.....	.27	.27	.27	Chromate, kegs.....lb.	.27	.28	.28	.27
.20	.55	.55	.55	Cyanide, 110 lb. cases .....lb.	.55	.57½	.57½	.55
.13	.11½	.11½	.11½	Metabisulfite, 300 lb. bbl..lb.	.11½	.12	.12	.11¼
.14	.16	.16	.16	Oxalate. Neut. 225 lb. bbls.lb.	.16	.17	.17	.16
.....	.11	.11	.11	Perchlorate, casks wks.....lb.	.11	.12	.12	.11
				Permanganate, USP, crys 500				
.09½	.15½	.14½	.14½	& 100 lb drs wks.....lb.	.15	.15½	.15½	.15
.21	.39	.37½	.38	Prussiate, red, 112 lb keg...lb.	.37	.38	.38	.37
.12½	.18	.18	.18	Yellow, 500 lb casks.....lb.	.18	.18½	.18½	.18
.....	.51	.51	.51	Tartrate Neut, 100 lb keg...lb.	.....	.51	.51	.51
				Titanium Oxalate, 200 lb bbls				
.....	.25	.25	.25	.....lb.	.....	.25	.25	25
.....	.04	.04	.04	Pumice Stone, lump bags.....lb.	.04	.05	.05	.04
.04½	.04½	.04½	.04½	250 lb bbls.....lb.	.04½	.06	.06	.04¾
.01½	.02½	.02½	.02½	Powdered, 350 lb bags.....lb.	.02½	.03	.03	.02½
2.65	3.75	3.75	3.75	Putty, commercial, tubs..100 lb.	.....	.03½	.03½	.03½
4.25	5.50	5.50	5.50	Linseed Oil, kegs.....100 lb.	.....	.05½	.05½	.05¾
.....	3.00	1.50	.94	Pyridine, 50 gal drums.....gal.	.....	1.50	1.50	1.50
				Pyrites, Spanish cif Atlantic				
.10½	.13	.12	.12½	ports bulk.....unit	.13	.13½	.13¾	.13
.02¼	.03	.03	.03	Quebracho, 35% liquid tks....lb.	.03	.03½	.03½	.03
.....	.03½	.03½	.03½	450 lb bbls c-1.....lb.	.03½	.04	.04	.03¾
.....	.04	.04	.04	35% Bleaching, 450 lb bbl..lb.	.04	.05	.05	.04
.04¼	.05	.04¾	.04¾	Solid, 63%, 100 lb bales cif.lb.	.05¼	.05½	.05¾	.05
.....	.05	.05	.05	Clarified, 64%, bales.....lb.	.....	.05½	.05½	.05
				Quercitron, 51 deg liquid 450 lb				
.01½	.06½	.06½	.06½	bbls.....lb.	.05½	.06	.06	.05¾
.02¼	.10	.10	.10	Solid, 100 lb boxes.....lb.	.10	.13	.13	.10
22.00	14.00	14.00	14.00	Bark, Rough.....ton	.....	14.00	14.00	14.00
.....	34.00	34.00	34.00	Ground.....ton	34.00	35.00	35.00	34.00
1918	.45	.45	.45	R Salt, 250 lb bbls wks.....lb.	.45	.46	.46	.45
.03	.18	.18	.18	Red Sanders Wood, grd bbls..lb.	.....	.....	.....	.....
1918	1.25	1.25	1.25	Resorcinol Tech, cans.....lb.	1.25	1.35	1.35	1.25
				Rosin Oil, 50 gal bbls, first run				
.27	.67	.57	.59	.....gal.	.....	.57	.57	.57
.38	.72	.62	.64	Second run.....gal.	.....	.62	.62	.62
				Rosins, 600 lb bbls 280 lb...unit				
4.37½	13.00	8.50	10.08½	B.....	.....	8.20	9.10	8.20
4.42½	13.00	8.50	10.17	D.....	.....	8.25	9.65	8.25
4.42½	13.15	8.50	10.23	E.....	.....	8.60	9.75	8.60
4.47½	13.20	8.50	10.49	F.....	.....	8.65	9.95	8.65
4.47½	13.25	8.50	10.58½	G.....	.....	8.75	10.00	8.75
4.47½	13.30	8.50	10.65	H.....	.....	8.75	10.05	8.75
4.55	13.35	8.55	10.79¾	I.....	.....	8.80	10.10	8.80
4.49½	14.80	8.65	11.05	K.....	.....	8.85	10.15	8.85
5.47½	15.00	8.80	11.15½	M.....	.....	8.85	10.30	8.85
6.12½	15.85	9.15	11.62	N.....	.....	9.60	11.00	9.60
6.67½	16.60	10.50	12.58	WG.....	.....	10.25	11.65	10.25
6.92½	18.55	12 00	14.34	WW.....	.....	10.70	12.65	10.70
.....	24.00	24.00	24.00	Rotten Stone, bags mines....ton	24.00	30.00	30.00	24.00
.....	.07	.07	.07	Lump, imported, bbls. ....lb.	.07	.08	.08	.07
.05½	.09	.09	.09	Selected bbls.....lb.	.09	.12	.12	.09
.02½	.02	.02	.02	Powdered, bbls.....lb.	.02	.05	.05	.02
.02½	.04½	.04½	.04½	Sago Flour, 150 lb bags.....lb.	.04½	.05	.05	.04½
.60	.90	.90	.90	Sal Soda, bbls wks.....100 lb.	.....	.....	.....	.....
11.00	19.00	19.00	19.00	Salt Cake, 94-96% c-1 wks...ton	19.00	20.00	20.00	19.00
8.00	15.00	15.00	15.00	White, 87% wks.....ton	15.00	17.00	17.00	15.00
				Saltpetre, double refd granular				
.04¾	.06½	.06½	.06½	450-500 lb bbls.....lb.	.06½	.06½	.06½	.06½
.....	.01½	.01½	.01½	Satin, White, 500 lb bbls.....lb.	.....	.01½	.01½	.01½
.18½	.66	.47	.57	Shellac Bone dry bbls.....lb.	.57½	.58	.61	.49
.15	.57	.41	.48	Garnet, bags.....lb.	.46	.47	.55	.46
.14½	.65	.40	.52½	Superfine, bags.....lb.	.50	.51	.58	47
.15½	.37	.57	.49	T. N. bags.....lb.	.46	.47	.55	.42
1918	.50	.50	.50	Schaeffer's Salt, kegs.....lb.	.53	.57	.57	.53

Pure
PHTHALIC ANHYDRIDE

FOR over ten years, buyers have been accustomed to using PHTHALIC ANHYDRIDE of the highest purity by specifying "SELDEN BRAND".

Not only does "SELDEN BRAND" assure them of a product of highest purity, but it gives them PHTHALIC ANHYDRIDE in the form of natural long needle crystals --- the form which dissolves and melts most readily.

For USE In

ANTHRANILIC ACID
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EOSINE
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SELDEN BRAND PHTHALIC ANHYDRIDE reaches you in a new slack paper-lined barrel, containing 150 lbs. net weight, and the package is so constructed that it can be used for re-shipment.

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Let us quote on your requirements.

The SELDEN Company

PITTSBURGH, PA. U. S. A.

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1917 71.7c - April 1928 67.8c

ment to the effect that it intends to protect the industry against any possible future cut in the prices of synthetic nitrogen products by the I. G. by returning to the Chilean producers an amount per metric quintal equivalent to any corresponding reduction in prices made by the I. G.

Sodium Nitrite — Business on this item has been brisk during the month and sellers are having no trouble in getting to quoted levels of 7¾c @ 8¼c lb. as to quantity.

Starch — The somewhat lower position of the grain market has not as yet lead to any price changes in corn starch. The market is steady at the same prices which prevailed when last reported. Other starches are also unchanged.

Tankage — Demand has been very good during the past month and as a result prices have advanced. Quotations at New York and in South America are now at $4.75 & 10 per unit, while Chicago is at $4.25 & 10 per unit.

Turpentine — Has registered a decline in price during the month which is attributed to sparse buying and abundant supplies. Most of the decline was registered during the first half of the month and since then the market has shown a somewhat firmer tendency. Buyers, however, seem convinced that prices will be lower and are purchasing in small quantities. Spirits are at 52½c @ 57½c gal. and wood distilled at 46c gal.

Tin Salts — At the end of the month the market declined on lower raw material costs, setting a new low level for the year. Quotations at the first of June were 15¼c lb. for bichloride, 38; lb. for cyrstals and 32c lb. for tetrachloride.

Zinc Ammonium Chloride — Competition between domestic and importing factos still continues a feature of this market. Prices range from 5¼c lb. upward according to seller, quantity and position.

OILS AND FATS

Chinawood Oil — Prices have been gradually declining during the past month so that quoted prices are ½c @ ¾c lb. lower than when last quoted. Barrels spot are now at 14½c lb. and Coast tanks at 12¾c lb. Recently the market has been somewhat firmer with offerings light and demand improved.

Coconut Oil — No price changes have been reported throughout the past month. All grades remain unchanged at quoted prices in a steady and quiet market.

Corn Oil — Strong conditions noted here last month continued to prevail until crude oil in tanks had gone as high

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	6.00	6.00	6.00	Silica, Crude, bulk mines....ton	8.00	11.00	11.00	8.00
.....	15.00	15.00	15.00	Refined, floated bags.....ton	22.00	30.00	30.00	22.00
.....	32.00	32.00	32.00	Air floated bags.....ton	.....	.....	.....	.....
.....	55.00	55.00	55.00	Extra floated bags.....ton	32.00	40.00	40.00	32.00
10.00	15.00	15.00	15.00	Soapstone, Powdered, bags f.o.b. mines.....ton	15.00	22.00	22.00	15.00
				Soda				
.67½	1.32½	1.32½	1.32½	Soda Ash, 58% dense, bags c-1 wks.....100 lb.	.....	1.40	1.40	1.40
.57½	2.14	2.04	2.12	58% light, bags del NY.100 lb.	2.04	2.29	2.29	2.04
.....	1.32½	1.32½	1.32½	Contract, bags c-1 wks.100 lb.	.....	1.32½	1.32½	1.32½
2.50	4.16	4.06	4.14½	Soda Caustic, 76% grnd & flake drums del NY.....100 lb.	4.16	4.21	4.21	4.16
.....	3.76	3.66	3.74½	76% solid drs del NY...100 lb.	3.76	3.91	3.91	3.76
.....	3.00	3.00	3.00	Contract, c-1 wks.....100 lb.	.....	3.00	3.00	3.00
.03½	.04½	.04½	.04½	Sodium Acetate, crystals, 450 lb bbls wks.....lb.	.04½	.05	.05	.04½
.....	.19	.18	.18½	Arsenate, drums.. .....lb.	.....	.....	.....	.....
.....	1.00	1.00	1.00	Arsenite, drums.....gal.	.....	.....	.....	.....
1.00	2.41	2.41	2.41	Bicarb., 400 lb bbl NY..100 lb.	.....	2.41	2.41	2.41
.04½	.06½	.06½	.06½	Bichromate, 500 lb cks wks.lb.	.07	.07½	.07	.06½
.02½	.08½	.08½	.08½	Bisulfite, 500 lb bbl wks....lb.	.....	.04	.04	.04
.60	1.30	1.30	1.30	Carb. 350 lb bbls NY...100 lb.	1.30	1.35	1.35	1.30
.07½	.06½	.06½	.06½	Chlorate, 112 lb kegs wks...lb	.05½	06½	.06½	.05½
.....	12.00	12.00	12.00	Chloride, technical.....ton	12.00	13.00	13.00	12.00
.22	.20	.20	.20	Cyanide, 96-98%, 100 & 250 lb drums wks.....lb.	.....	.20	.20	.20
1918	.08½	.08½	.08½	Fluoride, 300 lb bbls wks...lb.	.08½	.09	.09	.08½
.....	.22	.22	.22	Hydrosulfite, 200 lb bbls f.o.b. wks.....lb.	.22	.24	.24	.22
.....	.05	.05	.05	Hypochloride solution, 100 lb cbys.....lb.	.....	.05	.05	.05
1.40	2.65	2.65	2.65	Hyposulfite, tech, pea crys 375 lb bbls wks....100 lb.	2.65	3.05	3.05	2.65
1.30	2.40	2.40	2.40	Technical, regular crystals 375 lb bbls wks... 100 lb.	2.40	2.65	2.65	2.40
.....	.70	.45	.62	Metanilate, 150 lb bbls.....lb.	.....	.45	.45	.45
.....	.02½	.02½	.02½	Monohydrate, bbls.....lb.	.....	.....	.....	.....
1918	.55	.55	.55	Naphthionate, 300 lb bbl...lb.	.55	.57	.57	.55
2.12½	2.67	2.25	2.52½	Nitrate, 92%, crude, 200 lb bags c-1 NY.....100 lb.	.....	2.32½	2.45	2.30
.05½	.08½	.08	.08	Nitrite, 500 lb bbls spot ...lb.	.07½	.08	.08½	.07½
.....	.25	.25	.25	Orthochlorotoluene, sulfonate, 175 lb bbls wks.....lb	.25	.27	.27	.25
.....	.20	.20	.20	Oxalate Neut, 100 lb kegs..lb.	.20	.23	.23	.20
.....	3.90	3.90	3.90	Paratoluene, tri-sodium, tech. 100 lb bbls c-1....100 lb.	.....	3.90	3.90	3.90
.....	.08	.08	.08	Sulfonate, 175 lb bbls....lb.	.08	.09	.09	.08
.19	.21	.21	.21	Perborate, 275 lb bbls.....lb.	.21	.22	.22	.21
2.12½	3.25	3.25	3.25	Phosphate, di-sodium, tech. 550 lb bbls.....100 lb.	3.25	3.55	3.55	3.25
.....	.69	.69	.69	Picramate, 100 lb kegs.....lb.	.69	.72	.72	.69
.08½	.12	.11	.12	Prussiate, Yellow, 350 lb bbl wks.....lb.	.12	.12½	.12½	.12
.....	.13½	.13½	.13½	Pyrophosphate, 100 lb keg..lb.	.13½	.14	.14	.13½
.02	1.20	1.20	1.20	Silicate, 40 deg clear 55 gal drs wks.....100 lb.	1.20	1.45	1.45	1.20
.02	.85	.85	.85	40 deg turbid 55 gal drs wks.....100 lb.	.85	1.10	1.10	.85
.....	.04½	.04½	.04½	Silicofluoride, 450 lb bbls NY .....lb.	.04½	.05	.05	.04½
.....	.48½	.48½	.48½	Stannate, 100 lb drums.....lb.	.48½	.49	.49	.48½
.....	.20	.20	.20	Stearate, bbls.....lb.	.18	.22	.29	.18
.....	.16	.16	.16	Sulfanilate, 400 lb bbls.....lb.	.16	.18	.18	.16
.....	.02½	.02½	.02½	Sulfate Anhyd., 550 lb bbls c-1 wks.....lb.	.02½	.02¾	.02¾	.02½
.01½	.02½	.02½	.02½	Sulfide, 30% crystals, 440 lb bbls wks.....lb.	.02½	.02¾	.02¾	.02½
.....	.03½	.03½	.03½	62% solid, 650 lb drums 1c-1 wks.....lb.	.03½	.04	.04	.03½
.02½	.03½	.03½	.03½	Sulfite, crystals, 400 lb bbls wks.....lb.	.03½	.03½	.03½	.03½
.....	.40	.40	.40	Sulfocyanide, bbls.....lb.	.40	.50	.50	.40
.....	.85	.80	.82½	Tungstate, tech, crystals, kegs .....lb.	.80	.85	.85	.80
1917	.40	.35	.37	Solvent Naphtha, 110 gal drs wks.....gal.	.35	.40	.40	.35
1918	.01½	.01½	.01½	Spruce, 25% liquid, bbls.....lb.	.....	.01½	.01½	.01½
1918	.01	.01	.01	25% liquid, tanks wks.....lb.	.....	.01	.01	.01
.....	.02	.02	.02	50% powd., 100 lb bag wks.lb.	.02	.02½	.02½	.02
.....	3.22	3.07	3.14½	Starch, powd., 140 lb bags .....100 lb.	4.12	4.32	4.32	3.07
1.99	3.12	2.97	3.03	Pearl, 140 lb bags.....100 lb.	4.02	4.22	4.22	2.97
.05½	.06	.04½	.05½	Potato, 200 lb bags .....lb	.05½	.06½	.06½	.05½
.05½	.06½	.06½	.06½	Imported bags.....lb	.05½	.06½	.06½	.05½
.05½	.08	.06	.07	Soluble.....lb.	.08	.08½	.08½	.08
.07	.09½	.09	.09½	Rice, 200 lb bbls.....lb.	.09½	.10	.10	.09½
.04½	.06½	.06½	.06½	Wheat, thick bags.....lb.	.06½	.07	.07	.06½
.04½	.09½	.09½	.09½	Thin bags.....lb.	.09½	.10	.10	.09½
1918	.07½	.07½	.07½	Strontium carbonate, 600 lb bbls wks.....lb	.07½	.07½	.07½	.07½
.07½	.08½	.08	.08	Nitrate, 600 lb bbls NY....lb.	.08½	.09	.09	.08½
				Sulfur				
1.85	2.05	.205	2.05	Sulfur Brimstone, broken rock, 250 lb bag c-1.....100 lb.	.....	2.05	2.05	2.05
.....	18.00	18.00	18.00	Crude, f.o.b. mines.... ton	18.00	19.00	19.00	18.00
.....	2.40	2.40	2.40	Flour for dusting 99½%, 100 lb bags c-1 NY.....100 lb.	.....	2.40	2.40	2.40
2.00	2.50	2.50	2.50	Heavy bags c-1.....100 lb.	.....	2.50	2.50	2.50
2.20	3.45	3.45	3.45	Flowers, 100%, 155 lb bbls c-1 NY.....100 lb.	.....	3.45	3.45	3.45
1.85	2.65	2.65	2.65	Roll, bbls 1c-1 NY.....100 lb.	2.65	2.85	2.85	2.65

Prices Current and Comment

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as 10c lb. With a decline in the price of cottonseed oil and easier conditions in the grain market, the price of crude corn oil declined to 9c lb., ¼c lb. lower than when last quoted.

Cottonseed Oil — During the past month the price of crude oil has declined ¼c @ ½c lb., now being quoted at 8¾c lb. PSY has experienced a similar decline and is at 10.20c lb. on spot and 10.30c lb. for futures. The market has been steady and the decline a gradual one from the high position which had been reached when last reported here.

Greases — White has declined ½c lb. in price since last reported, now being quoted at 9½c lb. Brown and yellow had declined an equal amount but recently have recovered somewhat and are now quoted at 7¼c @ 7½c lb. and 7⅝c lb. respectively.

Herring Oil — Now becoming available in considerable quantities. Prices, which have been purely nominal, are now quoted at 42½c gal.

Lard Oil — Prime has advanced ¼c lb. during the month and is quoted at 16¼c lb. Both extra and extra No. 1 declined in the early weeks of last month but have recently moved into a stronger position, so that they too are quoted at a price ¼c lb. higher than when last reported. Extra is now at 12¼c lb. and extra No. 1 at 12¼c lb.

Linseed Oil — Has advanced 0.2c lb. since last reported. Barrels, spot, are now quoted at 10.4c lb., while the tank price is 9.6c lb. Five barrel lots are quoted at 10.8c lb. Deliveries have been good and the market firm, with first hands doing no price shading. But few sales have been reported during the month due to the fact that considerable resale material has been available; such outside supplies are apparently being exhausted very quickly.

Neatsfoot Oil — Cold-test and extra have each advanced ¼c lb. since last reported, now being quoted at 18¾c lb. and 12½c lb. respectively. Pure has remained unchanged at 15¾c lb.

Oleo Oil — After advancing to 15¼c lb. during the early part of the month, No. 1 declined in price and now is quoted at the same level at which it was last reported, 14¾c lb. No. 2 has declined ½c lb. and No. 3, ¼c lb., being quoted at 13½c lb. and 12¾c lb. respectively.

Olive Oil — The market in Spain continues strong and firm conditions continue to exist here. Both edible and denatured oil have remained unchanged in price during the past month. Foots has declined ¼c @ ½c lb. during the month and is now quoted at 10c @ 10¼c lb.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
				Sulfur Chloride, red, 700 lb drs			
.....	.05	.05	.05	wks.....lb.	.05	.05½	.05
.....	.03¾	.03¾	.03¾	Yellow, 700 lb drs wks.....lb.	.03¾	.04¼	.04¼	.03¾
.....	.08	.08	.08	Sulfur Dioxide, 150 lb cyl.....lb.	.08	.08½	.08½	.08
.....	.17	.17	.17	Extra, dry, 100 lb cyl.....lb.	.17	.19	.19	.17
.....	.65	.65	.65	Sulfuryl Chloride, 600 lb dr...lb	.10	.65	.65	.10
.....	.11	.11	.11	Stainless, 600 lb bbls.....lb.	.11	.11½	.11½	.11
.....	.05	.05	.05	Extract, 450 lb bbls.....lb.	.05½	.06	.06	.05½
.....	130.00	130.00	130.00	Sicily Leaves, 100 lb bg...ton	.....	130.00	130.00	130.00
62.00	80.00	72.00	73.75	Ground shipment.....ton	.....	72.00	72.00	72.00
40.00	55.00	55.00	55.00	Virginia, 150 lb bags.....ton	55.00	60.00	60.00	55.00
.....	12.00	12.00	12.00	Talc, Crude, 100 lb bgs NY..ton	12.00	15.00	15.00	12.00
15.00	16.00	16.00	16.00	Refined, 100 lb bgs NY..ton	16.00	18.00	18.00	16.00
15.00	30.00	30.00	30.00	French, 220 lb bags NY...ton	30.00	35.00	35.00	30.00
.....	38.00	38.00	38.00	Refined, white, bags....ton	38.00	45.00	45.00	38.00
35.00	40.00	40.00	40.00	Italian, 220 lb bags NY...ton	40.00	50.00	50.00	40.00
.....	50.00	50.00	50.00	Refined, white, bags....ton	50.00	55.00	55.00	50.00
3.50	4.85	4.00	4.41	Tankage Ground NY.....unit	.....	4.75&10	5.10&10	4.65&10
3.10	5.25	3.75	4.29	High grade f.o.b. Chicago.unit	.....	4.25&10	4.25&10	3.90&10
.....	5.25	4.00	4.38½	South American cif.....unit	.....	4.75&10	4.95&10	4.60&10
.02	.04½	.04¼	.04¼	Tapioca Flour, high grade bgs.lb.	.04½	.05	.05	.04½
.01¾	.03½	.03½	.03½	Medium grade, bags.....lb.	.03½	.04	.04	.03¾
.....	.26	.26	.26	Tar Acid Oil, 15%, drums...gal.	.26	.27	.27	.26
.....	.29	.29	.29	25% drums.....gal.	.29	.30	.30	.29
.....	.07	.07	.07	Coke Oven, tanks wks.....lb	.07	.08	.08	.07
6.50	16.00	13.50	14.87½	Kiln Burnt, bbl.....bbl.	.....	13.50	13.50	13.50
6.76	18.50	13.50	15.38½	Retort, bbls.....bbl.	13.50	15.00	15.00	13.50
				Terra Alba Amer. No. 1, bags or				
.75	1.15	1.15	1.15	bbls mills.....100 lb.	1.15	1.75	1.75	1.15
.60	1.50	1.50	1.50	No. 2 bags or bbls...100 lb.	1.50	2.00	2.00	1.50
.80	2.00	2.00	2.00	Imported bags.....100 lb.	.02	.02½	.02½	.02
.....	.20	.20	.20	Tetralene, 50 gal drs wks.....lb.	.....	.20	.20	.20
.....	.22	.22	.22	Thiocarbanilid, 170 lb bbl.....lb.	.22	.24	.24	.22
				Tin Bichloride, 50% soln, 100 lb				
.11½	.20½	.17½	.19	bbls wks.....lb.	.....	.15½	.17½	.15½
.23	.48	.41½	.45	Crystals, 500 lb bbls wks...lb.	.....	.39½	.41½	.39
.....	.71½	.58	.65	Metal Straits NY.....lb.	.....	.51½	.58	.51½
.36	.75	.70	.71	Oxide, 300 lb bbls wks.....lb.	.....	.56	.75	.57
				Tetrachloride, 100 lb drs wks				
.....	.48	.35½	.39	.....lb.	.....	.33	.35½	.33
.....	.40	.40	.40	Titanium Oxide, 200 lb bbl...lb.	.....	.40	.40	.40
.....	.13½	.13½	.13½	Pigment, bbls wks.....lb.	.13½	.14	.14	.13½
1918	.40	.40	.40	Toluene, 110 gal drs wks.....lb.	.....	.40	.40	.40
.....	.35	.35	.35	8000 gal tank cars wks.....lb.	.....	.35	.35	.35
1918	.90	.90	.90	Toluidine, 350 lb bbls.....lb.	.90	.94	.94	.90
1918	.31	.31	.31	Mixed, 900 lb drs wks.....lb.	.31	.32	.32	.31
.....	.85	.85	.85	Toner Lithol, red, bbls.....lb.	.85	.90	.90	.85
.....	.75	.75	.75	Para, red, bbls.....lb.	.70	.75	.80	.70
1918	1.75	1.75	1.75	Toluidine.....lb.	1.70	1.75	1.80	1.70
.....	3.60	3.60	3.60	Triacetin, 50 gal drs wks.....lb.	3.60	3.90	3.90	3.60
.....	.36	.36	.36	Tricresyl Phosphate, drs.....lb.	.36	.50	.50	.36
.....	.70	.69	.69	Triphenylguanidine.....lb.	.69	.73	.73	.69
.....	.70	.70	.70	Phosphate, drums.....lb.	.70	.75	.75	.70
.....	2.50	2.50	2.50	Tripoli, 500 lb bbls.....100 lb.	2.50	3.00	3.00	2.50
.49	.86	.53½	.65	Turpentine Spirits, bbls.....gal.	.52½	.57½	.64½	.52½
.34	.76	.46	.55	Wood Steam dist. bbls....gal.	.....	.46	.59	.46
.....	.18	.18	.18	Urea, pure, 112 lb cases.....lb.	.18	.20	.20	.18
				Valonia Beard, 42%, tannin				
.....	70.00	66.00	61.52	bags.....ton	.....	Nom.	76.00	74.00
.....	49.50	39.00	43.96	Cups, 30-31% tannin.....ton	.....	Nom.	55.00	55.00
.....	68.00	43.00	48.52	Mixture, bark, bags.....ton	.....	Nom.	64.00	63.00
.55	1.95	1.55	1.94¾	Vermilion, English, kegs.....lb.	1.85	1.90	1.95	1.75
.....	59.00	49.50	53.71	Wattle Bark, bags.....ton	58.50	60.00	76.00	58.00
				Extract 55%, double bags ex-				
.....	.05¾	.05¾	.05¾	dock.....lb.	.....	.06¾	.06¾	.05¾
				Whiting, 200 lb bags, c-1 wks				
.45	1.25	1.25	1.25	.....100 lb.	.....	1.25	1.25	1.25
.....	13.00	13.00	13.00	Alba, bags c-1 NY.....ton	.....	13.00	13.00	13.00
.55	1.35	1.35	1.35	Gilders, bags c-1 NY...100 lb.	.....	1.35	1.35	1.35
				Zinc Ammonium Chloride powd.,				
.....	.06¾	.06¾	.06¾	400 lb bbls.....lb.	5.25	5.75	.05½	5.85
.08¾	.09¾	.09¾	.09¾	Carbonate Tech, bbls NY..lb.	.09¾	.10	.10	.09¾
				Chloride Fused, 600 lb drs.				
.04¾	.06	.06	.06	wks.....lb.	.....	.06	.06	.06
.04¾	.06¾	.06¾	.06¾	Gran., 500 lb bbls wks.....lb.	.06¾	.06¾	.06¾	.06¾
.....	3.00	3.00	3.00	Soln 50%, tanks wks...100 lb.	.....	3.00	3.00	3.00
.....	.40	.40	.40	Cyanide, 100 lb drums.....lb.	.40	.41	.41	.40
.05¾	.09	.09	.09	Dust, 500 lb bbls c-1 wks...lb.	.....	.09	.09	.09
				Metal, high grade slabs c-1				
.....	7.35	6.40	6.66	NY.....100 lb.	.....	6.45	6.40	6.07½
.05¾	.07¾	07¾	.07¾	Oxide, American bags wks..lb.	.07¾	.07¾	.07¾	.07¾
.06¾	.10¾	.10¾	.10¾	French, 300 lb bbls wks..lb.	.10¾	.12¾	.12¾	.10¾
.02¾	.03½	03	.03½	Sulfate, 400 bbl wks.....lb.	.03½	.03¾	.03¾	.03½
.....	.30	.30	.30	Sulfide, 500 lb bbls.....lb.	.30	.32	.32	.30
.....	.29	.29	.29	Sulfocarbolate, 100 lb keg..lb.	.29	.30	.30	.29
.....	.38	32	.37	Xylene, 10 deg tanks wks....lb.	.....	.32	.32	.32
.....	.36	.30	.35	Commercial, tanks wks....lb.	.30	.32	.32	.30
1918	.35	.35	.35	Xylidine, crude.....lb.	.....	.38	.38	.38
.....	.02½	.02½	.02½	Zirconium Oxide, Nat. kegs..lb.	.02½	.03	.03	.02½
.....	.45	.45	.45	Pure kegs.....lb.	.45	.50	.50	.45
.....	.08½	.08	.08	Semi-refined kegs.....lb.	.08	.10	.10	.08

Oils and Fats

.08	.14	.13	.13	Castor, No. 1, 400 lb bbls....lb.	.14	.14½	.14½	.14
.08	.14	.12½	.13½	No. 3, 400 lb bbls.....lb.	.13½	.14	.14	.13½
.....	.18	.17	.18	Blown, 400 lb bbls.....lb.	.15½	.16	.17	.15½
.06¾	.31	.13¾	.19	China Wood, bbls spot NY...lb.	.....	14½	.17	.14½
.05¾	.18	.12½	.16½	Tanks, spot NY.....lb.	.....	Nom.	Nom.	Nom.
				Coast tanks, June.....lb.	.....	.12¼	.14¼	.12¼
1918	.12	.12	.12	Cocoanut, edible, bbls NY....lb.	.....	.10¼	.11¼	.10¼
.09¼	.09¼	.09	.09	Ceylon, 375 lb bbls NY....lb.	.09¼	.09¼	.10	.09¼
.08¼	.08¼	.08	.08¼	8000 gal tanks NY.....lb.	.08¼	.08¼	.09	.08¼
.10¼	.10¼	.09¼	.10	Cochin, 375 lb bbls NY....lb.	.10¼	.10¼	.10¼	.10¼

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Palm Oil — Lagos has advanced 1/8c @ 3/8c lb. during the month, now being quoted at 8c @ 8 1/4c lb. Niger advanced as high as 7 5/8c @ 7 3/4c lb. during the early weeks of the month but demand fell off at the higher prices. Consequently, Niger is now quoted at about the same level as a month ago, 7 1/4c @ 7 1/2c lb.

Perilla Oil — A noticeable scarcity of replacements at the Coast has become increasingly evident during the month and prices have advanced accordingly. Barrels at New York have advanced 1/4c @ 1/2c lb., being quoted at 13 1/2c @ 13 3/4c lb.; while tanks at the Coast have advanced 3/4c lb., being quoted at 12c lb.

Rapeseed Oil — In the absence of any quantity of Japanese oil, English has advanced somewhat during the month and is now quoted at 90c @ 92c gal. Japanese oil is not at present available but a purely nominal price of 87c @ 88c gal. is quoted. Blown oil has remained unchanged at $1.06 gal.

Red Oil — As if to make up for the lack of activity reported here a month ago, red oil has been in good demand during the past month. Distilled oil in barrels has advanced 1/2c lb. during the month and is now quoted at 9 3/4c @ 10 1/4c lb. The tank price has advanced 1/4c lb., being quoted at 9c lb.

Sardine Oil — This oil will not be available for about a month and consequently prices are nominal.

Sesame Oil — Yellow continues to decline as supplies become more abundant and is now quoted at 12c @ 12 1/2c lb., marking a 1/2c lb. decline during the month.

Soy Bean Oil — Tanks at the Coast, which for a short period had been nominal in price, are now being quoted at 9 5/8c lb. Tanks at New York after being 1/4c lb. lower, are now at the same level as when last quoted, 10 1/2c lb. Both crude and refined in barrels are 1/4c lb. higher in price, the former being quoted at 13 1/4c @ 12 1/2c lb. and the latter at 13 1/4c @ 13 1/2c lb.

Stearine Oleo — Has gradually declined in price during the month and is now being quoted at 10 1/4c lb., which marks a 1/2c lb. decline since last reported.

Tallow — The market for extra has been easy with but slight demand during the month. Price has declined slightly, with present quotations at 8 1/2c lb. Edible is quoted at 9 1/4c @ 10c lb., a decline during the month of 3/4c lb.

Tallow Oil — Demand has been steady and prices are 1/8c lb. higher than when last quoted. The barrel price is at 11 5/8c lb. and the tank price at 10 5/8c lb.

1914 July	1927 High	1927 Low	1927 Aver.			Current Market	1928 High	1928 Low
.05 1/4	.10	.08 1/4	.09 1/2	Tanks NY	lb.	.....	.09 1/2	.09 1/4	.09 1/4
.....	.09 1/4	.08 1/2	.09 1/2	Manila, bbls NY	lb.	.09 1/4	.09 1/2	.10	.09 1/4
.....	.08 1/4	.08 1/4	.08 3/8	Tanks NY	lb.	.....	.08 1/4	.08 1/4	.08 1/4
.....	.08 1/4	.08	.08 1/4	Tanks, Pacific Coast	lb.	.....	.08 1/4	.08 1/4	.08 1/4
				Cod, Newfoundland, 50 gal bbls					
.36 1/2	.66	.63	.64 1/2		gal.	.68	.69	.69	.63
.36 1/2	.59	.59	.59	Tanks NY	lb	.62	.63	.63	.62
				Cod Liver see Chemicals					
1918	.06	.06	.06	Copra, bags	lb.	.....	.05 1/4	.06 1/4	.05 1/2
.06 1/2	.11	.07	.10	Corn, crude, bbls NY	lb.	.....	.11	.11	.10 1/2
.06 1/2	.09 1/4	.07	.08 1/2	Tanks, mills	lb.	.....	.09	.10	.08 1/2
1916	.14	.10 1/2	.12	Refined, 375 lb bbls NY	lb.	.....	.12 1/2	.12 1/2	.12 1/2
1916	.12	.11	.11	Tanks	lb.	.....	.11 1/2	.11 1/2	.11 1/2
.06	.09 1/2	.06 1/2	.08	Cottonseed, crude, mill	lb.	.....	.08 1/2	.09 1/2	.07 1/2
.07 1/2	.11 1/2	.08 1/5	.10	PSY, 100 lb bbls spot	lb.	.....	10.20	10.65	.09 1/2
				June—Au5	lb.	.....	10.30	10.67	.09 1/2
				Degras, American, 50 gal bbls					
.02 1/2	.04 1/2	.04 1/2	.04 1/2	NY	lb.	.04 1/2	.05	.05	.04 1/2
.03 1/2	.04 1/2	do	do	English, brown, bbls NY	lb.	.....	.05 1/2	.05 1/2	.04 1/2
.03 1/2	.05 1/2	.05 1/2	.05 1/2	Light, bbls NY	lb.	.....	.05 1/2	.05 1/2	.05 1/2
.04 1/2	.07 1/2	.06	.06 3/8	Greases, Brown	lb.	.07 1/2	.07 1/2	.07 1/2	.07
.05 1/2	.08	.06 1/2	.07 1/2	Yellow	lb.	.....	.07 1/2	.08	.07
.06 1/2	.10 1/2	.08 1/2	.09 3/8	White, choice bbls NY,	lb.	.....	.09 1/2	.10 1/2	.09 1/2
.....	.....	.....	.....	Herring, Coast, Tanks	gal.	.....	42 1/2	.42 1/2	.40
.009	.09 1/2	.09	.09 1/16	Horse, bbls	lb.	.09 1/2	Nom.	Nom.	.09 1/2
.13	.16 1/2	.14 1/2	.15 1/2	Lard Oil, edible, prime	lb.	.....	.16 1/2	.16 1/2	.15 1/2
.....	.13 1/2	.10 1/2	.12	Extra, bbls	lb.	.....	.12 1/2	.13	.12 1/2
.09	.12 1/2	.10 1/16	.11 1/2	Extra No. 1, bbls	lb.	.....	.12 1/2	.12 1/2	.11 1/2
.078	.11 4/5	.10 2/5	.11	Linseed, Raw, five bbl lots	lb.	.....	10.8	10.8	10.0
.077	.11 9-10	.09 6-10	.10 1/16	Bbls c-l spot	lb.	.....	10.4	10.4	9.6
.076	.10 1/2	.09	.09 7-12	Tanks	lb.	.....	9.6	9.6	8.8
.....	.09 1/2	.09 1/2	.09 1/2	Lumbang, Coast	lb.	.....	.09 1/2	.09 1/2	.09 1/2
.33 1/2	.47 1/2	.44	.46 3/8	Menhaden Tanks, Baltimore	gal.	.....	Nom.	.46	.46
.....	.90	.10	.36 3/8	Blown, bbls NY	lb.	.....	.09	.09	.09
.43	.70	.67	.68 1/2	Extra, bleached, bbls NY	gal.	.....	.70	.70	.67
.39	.66	.63	.62	Light, pressed, bbls NY	gal.	.63	.64	.64	.63
.37	.66	.69	.67 1/2	Yellow, pressed, bbls NY	gal.	.66	.67	.67	.66
				Mineral Oil, white, 50 gal bbls					
					gal.	.40	.60	.60	.40
				Russian, gal	gal.	.95	1.00	1.00	.95
.14	.18 1/2	.14 1/2	.17 1/2	Neatsfoot, CT, 20° bbls NY	lb.	.....	.18 1/2	.18 1/2	.18 1/2
.....	.13 1/2	.10 1/2	.12	Extra, bbls NY	lb.	.....	.12 1/2	.12 1/2	.12
.....	.16 1/2	.12 1/2	.14 1/2	Pure, bbls NY	lb.	.....	.15 1/2	.16 1/2	.15 1/2
.08	.18 1/2	.10	.13 1/2	Oleo, No. 1, bbls NY	lb.	.....	.14 1/2	.17 1/2	.14 1/2
.07 1/2	.17	.08 1/2	.12	No. 2, bbls NY	lb.	.....	.13 1/2	.15 1/2	.12 1/2
.07 1/2	.14	.08 1/2	.10 1/2	No. 3, bbls NY	lb.	.....	.12 1/2	.14	.11 1/2
.83	1.75	1.40	1.48 1/4	Olive, denatured, bbls NY	gal.	1.23	1.25	1.30	1.20
1918	2.00	2.45	2.15	Edible, bbls NY	gal.	1.90	2.00	2.00	1.90
.07 1/2	.10 1/2	.08 1/2	.09 1/16	Foots, bbls NY	lb.	.10	.10 1/2	.10 1/2	.09 1/2
.08 1/2	.09 1/2	.09	.09 1/2	Palm, Kernel, Casks	lb.	.....	.09 1/2	.09 1/2	.09 1/2
.07	.08 1/2	.07 1/2	.08	Lagos, 1500 lb casks	lb.	.08	.08 1/2	.08 1/2	.07 1/2
.....	.08 1/2	.07 1/2	.07 1/2	Niger, Casks	lb.	.07 1/2	.07 1/2	.07 1/2	.07
.....	.14 1/2	.12	.12	Peanut, crude, bbls NY	lb.	.12	.12 1/2	.12 1/2	.12
.....	.15 1/2	.14 1/2	.15	Refined, bbls NY	lb.	.14 1/2	.15	.15	.14 1/2
.....	.16 1/2	.12 1/2	.14	Perilla, bbls NY	lb.	.13 1/2	.13 1/2	.13 1/2	.13
.....	.14 1/2	.10	.12	Tanks, Coast	lb.	.....	.12	.12	.10 1/2
.....	1.70	1.70	1.70	Poppyseed, bbls NY	gal.	1.70	1.75	1.75	1.70
.63	1.05	1.00	1.01	Rapeseed, blown, bbls NY	gal.	.....	1.06	1.06	1.01
.....	.90	.82	.87	English, bbls NY	gal.	.90	.92	.92	.87
.....	.85	.76	.80 3/8	Japanese, bbls NY	gal.	.....	Nom.	.88	.82
.06 1/2	.10	.09	.09	Red, Distilled, bbls	lb.	.09 1/2	.10 1/2	.10 1/2	.09 1/2
.....	.09 1/2	.08 1/2	.08 3/8	Tanks	lb.	.....	.09	.09 1/2	.08 1/2
.....	.50	.50	.50	Salmon, Coast, 8000 gal tks	gal.	.50	Nom.	Nom.	.50
.....	.47	.43	.45	Sardine, Pacific Coast tks	gal.	.....	Nom.	.45	.45
.08 1/2	.13	.11 1/2	.12 1/2	Sesame, edible, yellow, bbls	lb.	.12	.12 1/2	.13 1/2	.12
.....	.14	.14	.14	White, bbls	lb.	.....	Nom.	.15	.14
.34	.40	.40	.40	Sod, bbls NY	gal.	.....	.40	.40	.40 1/2
.....	.09 1/2	.09 1/2	.09 1/2	Soy Bean, crude					
.06 1/2	.....	.....	.....	Pacific Coast, tanks	lb.	.....	.09 1/2	.09 1/2	.09
.....	.12 1/2	.10 1/2	.12	Soy Bean, crude, bbls NY	lb.	.12 1/2	.12 1/2	.12 1/2	.12
.....	.11	.10 1/2	.10 1/2	Tanks NY	lb.	.....	10 1/2	.10 1/2	.10 1/2
.....	.13	.12	.13	Refined, bbls NY	lb.	.13 1/2	.13 1/2	.13 1/2	.13 1/2
				Sperm, 38° CT, bleached, bbls					
.70	.85	.84	.84 1/2	NY	gal.	.84	.85	.85	.84
.68	.82	.79	.80 1/2	45° CT, bleached, bbls NY	gal.	.79	.80	.80	.79
				Stearic Acid, double pressed dist					
1916	.13 1/2	.11 1/2	.12	bags	lb.	.11 1/2	.11 1/2	.12	.11
				Double pressed saponified bags					
1916	.14	.11 1/2	.12		lb.	.11 1/2	.12 1/2	.12 1/2	.11 1/2
1916	.15 1/2	.13 1/2	.14	Triple, pressed dist bags	lb.	.13 1/2	.14 1/2	.14 1/2	.13 1/2
.07 1/2	.13	.08 1/2	.11	Stearine, Oleo, bbls	lb.	.....	.10 1/2	.11 1/2	.09 1/2
.06	.09	.07 1/2	.08	Tallow, City, extra loose	lb.	.....	.08 1/2	.09 1/2	.08 1/2
.07	.11	.08 1/2	.10	Edible, tierces	lb.	.09 1/2	.10	.10 1/2	.09 1/2
.09	.10 1/2	.08 1/2	.10	Tallow Oil, Bbls, c-l NY	lb.	.....	.11 1/2	.11 1/2	.11 1/2
.09 1/2	.12 1/2	.10	.11	Acidless, tanks NY	lb.	.....	.10 1/2	.10 1/2	.10 1/2
.....	.08 1/2	.07 1/2	.07 1/2	Vegetable, Coast mats	lb.	.08	Nom.	Nom.	.08
.04 1/2	.11	.11	.11	Turkey Red, single bbls	lb.	.11	.12	.12	.11
.05 1/2	.14	.14	.14	Double, bbls	lb.	.14	.16	.16	.14
				Whale, bleached winter, bbls					
.50	.78	.78	.78	NY	gal.	.78	.80	.80	.78
.52	.80	.80	.80	Extra, bleached, bbls NY	gal.	.80	.82	.82	.80
.48	.76	.76	.76	Nat, winter, bbls NY	gal	.76	.78	.78	.76

Local Reports *from our Correspondents at the Principal Consuming Centers of Industrial Chemicals*

California

Illinois

LOCAL REPORTS

The consensus of opinion gathered from our monthly out of town correspondents seems, with the exception of Boston and the New England territory, to bear out the opinion gathered in New York that chemical business conditions were quite good during the month of May. The inactivity of the Boston district is explained by the quietness in the textile industry —always the largest consumer of chemicals in New England.

It is interesting to note that alcohol is commented on in all sections with some dealers coorborating the statement of the producers that except in the Metropolitan district the market for denatured grade is firmer and selling well for Fall delivery.

CHICAGO

Both general business conditions and those prevailing in the heavy chemical line can best be characterized as only fair during the past month in the Chicago district. Sales of chemical products have been exceedingly spotty during the entire month of May. The greatest activity has been apparent in stearic and oleic acids. As was the case in practically all quarters the principal price change of the month was an advance of one cent gal. for carlots of completely denatured alcohol and two cents gal. for less carlots. Collections continue good.

BOSTON

The general quietness in many lines in New England is also applicable to the heavy chemical industry and the past month has not witnessed any great volume of business passing hands. There have not been any items which have been particularly active, in fact, practically the entire line of heavy chemicals have been quite inactive during the period under report. As a result of these conditions collections also have been gradually falling off.

DETROIT

Conditions in the chemical industry in the Detroit territory have shown signs of considerable improvement during the past six weeks or two months. There has not been any particular outstanding item but with the automobile factories very busy, there is quite a bit of nickel and chrome plating being done. From the angle of price changes the market has not shown any change. With the improve-

Massachusetts

Michigan

Missouri

Local Reports

from our Correspondents at the Principal Consuming Centers of Industrial Chemicals

Missouri---(cont.)

New Jersey

New York

ment in general conditions, a marked picking up in collections is also in evidence.

KANSAS CITY

The movement of industrial chemicals in the middle-western and south-western territory is quite satisfactory, and we believe there has been some betterment in inquiry and sales in the last ten days or two weeks period.

The weather has been somewhat cooler than normally but with satisfactory rainfall and the crop outlook in this immediate vicinity is unusually good.

The movement in arsenicals has been delayed by the backward season but is getting underway and this includes of course all other items in the spray-material line. Collections also seem somewhat better and a general feeling of optimism prevails.

NEWARK

The heavy chemical line has been very active during the month and is at least 25% ahead of 1927. Raw material prices are remaining steady and where there have been any changes they have been upward. All chemical plants are working at about full time. Collections are very steady. General conditions in the industry are more satisfactory for the coming two months than they have been for some time. Manufacturers prices are remaining firm which affects the prices on finished material as well.

There is a good condition in the dry color line. Plants are doing a substantial volume of business and prospects for increased business in the immediate future are bright and the trade is pretty well satisfied.

CLEVELAND

Conditions in the Cleveland territory seem to be very good. Paint and varnish manufacturers are all busy and are placing a great many orders although their buying is mainly from hand to mouth. During the past two weeks a considerable quantity of denatured alcohol business was placed by the anti-freeze buyers for fall delivery. Prices on this commodity are very firm and on May 15th, advanced one cent per gallon. Glycerine remains steady with most of the buyers booked on contract until the end of the year. While business among the steel producers has slowed down somewhat, at the same time the industry, as a whole, seems very optimistic.

Ohio

Rhode Island

Texas Gulf Sulphur Position

The last of Texas Gulf Sulphur Co.'s old low priced sales contracts expired last year and their renewal at present price and will add between $1,000,000 and $1,500,000 to net profit this year, says the "Wall St. Journal."

Thus on about the same volume of business as last year Texas Gulf Sulphur should earn between $13,000,000 and $14,000,000 in 1928 against $12,099,374 or $4.76 a share earned in 1927 on 2,540,000 shares of capital stock and $9,383,813 or $3.69 a share in 1926.

The beginning of this improvement should be shown in the second quarter of this year when net profit is expected to be around $3,250,000 against $3,087,839, equal to $1.21 a share, earned in the first quarter of this year.

The work of constructing a new plant and town site at Boling Dome, the new sulfur deposit purchased from Gulf Production Co., subsidiary of Gulf Oil Co., is proceeding as rapidly as possible. It is expected the new plant will be completed during the summer or fall of 1929 and will be operation before 1930. As far as can be seen, all of this work will be financed from the resources of Texas Gulf without recourse to financing. The total investment for plant and town site, water, etc., will be between $8,000,000 and $10,000,000.

Under the terms of the contract the profits from operation of the new dome will be divided equally between Texas Gulf Sulphur and the Gulf Oil Co. after Texas Gulf has been repaid for the total investment at Boling. It is estimated that Texas Gulf will be receiving all of the profits for several years on account of repayments of principal.

The new plant will have an initial capacity of 7,500 h.p. compared with 12,000 h.p. now in use at Texas Gulf's own dome. Under the terms of the contract Texas Gulf agreed only to build a plant of 3,000 h.p. but voluntarily installed the larger capacity to take care of increased demand in the future. Auxiliary buildings for the plant, homes, recreation centers, schools and other features are included.

Texas Gulf always has kept in strong cash position and on this account will be able to finance the new project independently. Cash on hand December 31, 1927, was $4,044,171 after expenditure during the year of more than $4,000,000 on property account. Nearly $2,000,000 was carried to surplus after the payment of dividends last year, and if expectations are realized cash surplus will be increased about $4,000,000 this year, giving the company total cash of about $8,000,000 for construction purposes. Since the work will not be completed until the latter part of 1929 it obviously can be paid for from current income.

There does not appear to be any reason to expect an increase in the present $4 dividend rate for some time to come, however.

Texas Gulf has built up an inventory of surplus above ground of approximately 2,000,000 tons during its eight years of production. With materials and supplies it is carried on the books at $8,665,879, representing cost, but market value of the pile at $18 a ton is $36,000,000. Sales of sulfur last year were just slightly in excess of production and will be approximately parallel to production this year, so inventory probably will be kept at its present level for the time being. In 1929 reserves probably will be increased again.

Texas Gulf produced a total of 1,320,616 tons in 1927 against 1,305,790 in 1926 and approximately 1,000,000 in 1925.

The following table shows earnings and production in tons by quarters in 1927 and 1926:

	1927 Profit	*Production*	*1926 Profit*	*Production*
1st quarter	$2,854,631	392,390	$1,930,624	351,292
2nd quarter	3,262,277	391,428	1,859,918	261,584
3rd quarter	2,936,189	280,470	2,531,468	344,782
4th quarter	3,046,277	256,328	3,061,803	348,132
Total	$12,099,374	1,320,616	$9,383,813	1,305,790

In the first quarter of this year production was 206,646 tons, against 256,328 in the preceding quarter and a decline of 186,000 tons from the corresponding quarter a year ago.

Record Output of Carbon Black

A new record for the production of carbon black in the United States was established in 1927, when the total output amounted to 198,429,000 pounds, according to G. R. Hopkins of the United States Bureau of Mines, Department of Commerce. This represents an increase over the 1926 output of 17,853,000 pounds, or 9.9%. This production had a value at the plant of $10,955,000, which represents an average value of 5.5 cents per pound the same as in 1926.

The year 1927 witnessed a material expansion in both domestic and foreign trade in carbon black. Total sales amounted to 223,430,000 pounds, an increase over the previous year of 33.4%. Of this amount 168,999,000 pounds was consigned to domestic consumers and 54,431,000 pounds was exported. This brisk demand had a material influence on stocks of carbon black held at plants which, for the first time since such statistics were compiled (1922), showed a decrease by declining from 108,378,000 pounds on December 31, 1926, to 82,831,000 pounds on December 31, 1927. In spite of the increased production, losses at the plants again showed a decrease, a probable reflection of increased efficiency in handling.

The export trade in carbon black reached a new high level in 1927, when 54,431,000 pounds was exported, an increase over 1926 of 38.8%. These exports had a total value of $4,600,000, an average of 8.5 cents per pound as compared with 9.2 cents in 1926. The United Kingdom retained first place and France, second place, as the leading importers of carbon black from the United States, although Germany and Canada, which rank third and fourth respectively, showed a much larger percentage increase over their 1926 imports.

Magnesium sulfate is extensively used in the German rayon industry by all factories employing the viscose process. According to this process, the liquid cellulose is forced through minute orifices into a special solution, where each single stream instantly solidifies into a silk-like thread which is later spun and woven. The solution contains a large percentage of magnesium sulfate. The relation of the consumption of magnesium sulfate to the output of rayon is said to be 4 to 4½ tons to every 1,000 kilos of the finished product. Thus a factory like the Vereinigte Kunstseide which produces 10,000 kilos of rayon daily might use as much as 45 tons of magnesium sulfate daily. Further information on this subject supplied by Consul Hamilton C. Claiborne, Frankfort on the Main, is available in the Chemical Division.

The nine Norwegian pyrites mines in operation during 1927 report production of 600,000 tons of pyrites as compared with 635,000 tons in 1926, according to the Department of Commerce. Exports of Norwegian pyrites amounted to 603,157 tons in 1927, which compares with 582,771 tons in 1926; while exports of pyrites cinders amounted to 51,143 tons, as compared with 36,309 tons in 1926.

Besides the quantities of iron pyrites exported in 1927 from 40,000 to 50,000 tons were consumed by the domestic industry chiefly by the cellulose factories. Many of the Norwegian cellulose factories use American sulfur the imports of which average about 35,000 tons annually.

Production of sulfuric acid in Canada during 1927 totaled 98,470 tons, valued at $1,172,507, as compared with 108,230 tons valued at $1,306,254 in 1926. Exports amounted to 17,407 tons, valued at $191,926, as against 28,137 tons, valued at $320,324 in 1926. Practically all of this was shipped to the United States. Imports totaled 53 tons valued at $8,548 in 1927.

In the manufacture, 19,377 tons of pyrites and 29,805 tons of brimstone were used, while one plant makes the acid from waste smelter gases.

U. S. Potash Stocks Lower

Potash produced in the United States in 1927 amounted to 76,819 short tons of potassium salts containing 43,510 short tons of potash (K_2O), according to the United States Bureau of Mines, Department of Commerce. Sales by producers amounted to 94,722 tons of potassium salts containing 49,500 tons of K_2O. Potash materials of domestic origin, sold by producer in 1927, were valued at $2,448,146 f. o. b. plants. About 7,250 tons of potassium salts with an available content of 2,500 tons of K_2O, remained in producers' stocks December 31, 1927. Output increased 66 per cent. in gross weight with an increase of 86 per cent. of K_2O content. Sales of salts increased 84 per cent. with an increase of 98 per cent. in K_2O content. Total value of the sales increased 126 per cent. Stocks remaining in the hands of producers at the end of 1927 were 72 per cent. less than at the end of 1926. Production was chiefly from natural brines in California and distillery residue from molasses in Maryland. Small amounts were also obtained from steel plant dust in Pennsylvania, Steffen's water in Indiana, and glauconite in Delaware. A small amount of alunite was shipped from Marysvale, Utah, but it was not utilized other than for experimental work.

Potassium salts imported for consumption into the United States in 1927, according to the Bureau of Foreign and Domestic Commerce, amounted to 730,597 short tons with a K_2O content of 224,973 short tons. This represents a decrease of 19 per cent. in gross weight and 16 per cent. in K_2O content from the imports for 1926. Total value of imports was $18,369,805, which was less than one per cent. below the value given for 1926 imports. Potassium salts imported chiefly for fertilizer amounted to 687,349 short tons (K_2O content 205,818 tons) valued at $13,178,610, a decrease of 20 per cent. in total quantity, of 16 per cent. in K_2O content, and 3 per cent. in value.

Potassium salts imported for the chemical industry amounted to 43,248 tons (K_2O content 19,155 tons) valued at $5,191,195, a decrease of 10 per cent in total quantity, 7 per cent. in K_2O content, and an increase of 8 per cent. in value.

Determining the oil content of seed and other farm products in approximately 15 minutes at a cost of less than one cent per test is made possible by the use of the so-called Wesson method developed by the United States Department of Agriculture for the rapid estimation of linseed oil content of flaxseed and linseed meal.

Further researches by the department to extend the technic of the test to other oil-bearing materials have demonstrated the practicability of the method applied to 16, additional products, including peanuts, soy beans, cacao beans, cacao shells, cocoa, and sweet chocolate.

The procedure necessary in the application of the method to each commodity is described in Technical Bulletin 71-T, entitled "A Simple Method for Determining the Oil Content of Seeds and Other Oil-Bearing Materials," copies of which may be obtained from the Department of Agriculture, Washington, D. C.

Production of ammonium sulfate in Canada during 1927 amounted to 24,708 tons, valued at $1,030,991, according to figures compiled by the Dominion Bureau of Statistics. In 1927 the production figures were 23,655 tons, valued at $1,015,578. All of this is made as a by-product of the coke and artificial gas industries. The bulk of it is exported for use as fertilizer. In 1927, 16,947 tons were exported, valued at $730,815 as against 16,382 tons, valued at $813,115 in 1926.

Imports of ammonium sulfate into Canada during 1927 amounted to 3,181 tons, valued at $160,150, chiefly from the United States. There are two companies producing this product in Hamilton, Ont., one in Salt Ste. Marie, Ont., one in Sydney, N. S., one in Ottawa and one in Montreal, Que.

Czechoslovakia's Leading Company

The "Aussiger Verein" is the outstanding factor in the chemical industry of Czechoslovakia, according to Assistant Trade Commissioner K. L. Rankin, Prague. The United Chemical and Metallurgical Works (Ltd.), or "Aussiger Verein," as it is commonly known, was founded in 1857 with head offices in Vienna and plant at Aussig-on-Elbe. A concession was granted to import German potash salts and the production of sulfuric acid, Glauber's salt, soda and bleaching powder was begun. Throughout its history the company has deserved its name "United" which it bore from the first. Consolidations and acquisition of interests in other concerns have followed one after the other until the company now ranks among the most important in the chemical industry on the European Continent. In 1871 the original capital of 1,000,000 florins ($400,000) was doubled through the sale of stock and a factory at Kralup (now in Czechoslovakia) was acquired. Six years later (1885) the United joined with Solvay & Co., Brussels, in the erection of a soda factory at Ebensee, Austria. The two firms later established additional soda plants in 1896 at Maros Ujvar (now in Rumania), at Nestomitz (1905), and at Rorda (1911). In the meantime, the capitalization has been increased on three occasions through the sale of new shares and the declaration of a stock dividend and amounted to 14,500,000 crowns ($2,900,000 with reserves of 23,500,000 crowns ($4,700,000) in 1914.

Other acquisitions of the United include a plant at Hruschau (now in Czechoslovakia) in 1911 and an electrochemical works at Schwarz, Austria, in 1915. A factory for the production of carbide and calcium cyanamide was erected at Falkenau in 1916. Connected with the latter is a coal mine producing about 350,000 tons annually. The United and Solvay & Co. is also jointly interested in the Bosnian Ammoniak Soda Factory at Lukavac (Yugoslavia) and in the Zaklady Solvay W. Polsce at Podgroze and Montwy (Poland). An electrolytic plant was erected at Zscherndorf (Germany) in co-operation with the Salzberg Neu-Strassfurt Works and soon became one of the largest of its kind in Germany. A tin chloride plant was established at Aussig in 1911 in conjunction with Theodor Goldschmidt A. G. of Essen.

After the creation of the Czechoslovak Republic the principal offices of the United were transferred from Vienna to Karlsbad since the most important plants were located in Czechoslovakia. Political and economic considerations led to the nationalization of several of the United's subsidiaries after the Armistice. Their Czechoslovak interests were combined into a Czechoslovak corporation. Rumanian, Polish, Yugoslav, and Hungarian companies were organized and in most of these transactions Solvay & Co. was also interested. Through stock ownership the new companies are still controlled by the United while the Belgian firm holds a large block of the former's shares.

More recent participations of the United in other firms include: Bohemian Artificial Silk Works, Lobositz, Czechoslovakia; "Chnoin" Works, Ujpest, Hungary; Lutzow Works, Konitz, Czechoslovakia; Hruschau Clay Works, Hruschau, Czechoslovakia; "Hungaria" Chemical Co., Budapest, Hungary; "Kastel" Works, Karlovak, Yugoslavia; Sillein Artificial Fertilizer and Chemical Works, Sillein, Czechoslovakia; "Zorka" First Yugoslav Chemical Co., Subotice, Yugoslavia; "Sanabo" Chemical and Pharmaceutical Works, Vienna, Austria; and Chemical Products Co., Thann, France.

The latest developments (1927) are an agreement with the I. G. Farbenindustrie with regard to the production of activated carbon and participation in the Czechsolovak Nitrates Co., Moravska Ostrava.

The United produces about 100,000 tons of sulfuric acid yearly, most of which is used in its own works in manufacturing such products as superphosphates, Glauber's salt, sulfates, sulfites, bisulfites, and lithopone. The hydrochloric acid resulting from the manufacture of sulfates is marketed in part and the rest used in the production of zinc chloride, barium chloride, calcium chloride, etc. The electrolytic plant at Aussig supplies the total requirements of Czechoslovakia in caustic soda, caustic potash, bleaching powder liquid cholrine, metallic sodium, sodium peroxide, and potassium permanganate. The Falkenau works are operating at capacity in the manufacture of calcium carbide. It is expected that this plant will be enlarged shortly to increase the output of nitrogen.

The total sales of finished products from the Aussig, Hruschau, and Falkenau plants of the United amounted to about 180,000 metric tons during 1927. Approximately 500,000 tons of coal and coke are consumed annually in these three plants.

The success of the United in maintaining its position throughout the post-war period is truly remarkable in view of its widespread interests in the countries which have suffered most acutely from political and economic disturbances. The company has paid dividends of 14 per cent. to 30 per cent. in every year of the war and post-war period and while it has been necessary to raise some additional capital by the sale of shares, the market value of the shares now outstanding is again close to its pre-war figure. Its present capital and reserves amount to 210,000,000 crowns.

While the total production of graphite in the United States in 1927 was slightly less than that of 1926, its total value increased according to a statement by the United States Bureau of Mines, Department of Commerce. Sales of natural graphite by producers in 1927 were 5,207 short tons, valued at $232,971, a decrease of 263 tons, or 5 per cent. in quantity, and an increase of $13,629, or 6 per cent. in value, compared with 1926.

Manufacture of artificial graphite in New York decreased from 21,163,986 pounds in 1926, to 12,257,239 in 1927, or 42 per cent.

Imports of graphite in 1927 amounted to 17,452 short tons, valued at $723,923, compared with 16,166 short tons, valued at $921,233 in 1926, an increase of 8 per cent. in quantity, but a decrease of 21 per cent. in value.

Current Potash Prices to Prevail

N. V. Potash Export My. announces that current prices, now 6 per cent. below the pre-war scale, will prevail throughout 1928 and range from $34.80 per ton in bulk for muriate of potash to $9 per ton in bulk for kainit.

"The unfounded rumors of a price advance in America probably were based upon the fact that costs of potash production and importation have increased at a rapid rate," said a statement issued by Rene Gide and Robert Kunze, co-directors of N. V. Potash Export My.

"Mine wages and rail freight rates abroad are 50 to 100 per cent. above pre-war, as are also ocean freight rates to America. In the face of these cost increases, the potash mines of Germany and France have been put upon a 'rationalization' basis such as is advocated for the coal industry in America, and as a result the average price of potash in America has been brought down to a level lower than pre-war."

In 1913 the American consumption was 256,561 tons and had for years been increasing at the rate of 10 per cent. annually. It is estimated that if the war had not intervened the consumption in 1927 would normally have been about 950,000 tons and the total for the period 1914-1927 would have been 7,700,000 tons. Actually, however, the American consumption in 1927 was only 290,000 tons, and for the period 1914-1927 the total was only 2,131,643 tons.

One of the outstanding features of the exhibits at the British Industries Fair this year, as compared with last year, was the greatly increased number of molding powders and products made from them, as well as varieties of synthetic resins and allied products, according to the Department of Commerce. The manufactured articles in this group range all the way from tableware to electric fittings and other heavier goods. One firm had an exhibit, including a demonstration of the method of manufacturing various wares from molding powders, and of a new standard black molding powder in addition to their previous line. Another firm displayed an extensive line of products manufactured from cellastine molded sheets, rods and molding powder, and celastoid, a similar material in black. These products are a cellulose acetate base.

Department of Commerce announces that, according to data collected at the recent Biennial Census of Manufactures, the production of soda ash by the ammonia-soda process and of sodium hydroxide by the lime-soda process in 1927 and 1925 was as follows:

	1927	1925	*Per cent. of increase or decrease (-) 1925-1927*
Soda ash, by ammonia-soda process:			
Number of establishments	6	6	
Total production, tons	1,887,068	1,850,013	2.0
For sale, tons	1,346,741	1,310,882	2.7
Value	$28,645,404	$30,914,538	-7.3
Sodium hydroxide by lime-soda process:			
Number of establishments	6	6	
Total production, tons (amount made for consumption by producers and amount made for sale*)	373,901	355,783	6.2

*The quantity produced for sale can not be shown separately without disclosing the production of individual establishments.

Sharp decline in the price of rice in Japan after May, due to bumper crop, adversely affected the fertilizer market in that country during the latter part of the past year. Soy bean cake price in December had declined 12 per cent. sulfate of ammonia, 26 per cent. and superphosphatic acid, 21 per cent. from May and June quotations. Comparative firmness of bean cake resulted from 37 per cent. decrease in imports as compared with the previous year. Overproduction of sulfate of ammonia and superphosphatic acid, coupled with lack of demand led to sharp drop in prices. Stocks on hand at the end of the year totaled 192,000 tons of the former, and over 4,000,000 bags of the latter.

Ruhr Chemical Co. Activities Reviewed by "Financial News"

The creation of the Ruhr Chemical Corp., which is to be initially financed by a $4,000,000 loan in New York, is an important event in the chemical fertiliser world, according to the Financial News, London. The Ruhr heavy coal industry has previously supplied coal to the I. G. Farbenindustrie for the manufacture of synthetic nitrogen. It now intends to do its manufacturing for itself through the agency of the new company. One coal company, the Mont Cenis, has been using its coke-oven gas on a moderate scale for synthetic nitrogen compounds during the last two years. Another, the Concordia, has been carrying on research for sixteen years and experimental production for the last four. Both use the Casale-Concordia-Linde nitrogen fixation patents. With these examples, 27 leading Ruhr coal companies have now formed the Ruhr Chemical Corp. and started to produce synthetic nitrogen compounds on a large scale.

This new departure will bring the Ruhr heavy industry into direct conflict with the I. G., the German chemical trust, if they do not agree on a common policy. Both groups are powerful enough to wage an intense price-cutting war, and several sharp skirmishes at the beginning made a conflict seem likely. The I. G. obtains part of its raw materials from the air, and another important part from the lignite and minerals under and near its works, but it has had to buy Rhur coal and coke in large quantities, and these were for years its largest single item of expense. But a couple of years ago the company made a bid for freedom from the Ruhr heavy industry, acquiring interests in several Ruhr anthracite mining companies. A second blow to the Ruhr coal companies came recently when the I. G. managed to shift from the consumption of anthracite and coke to lignite. Of this the I. G. has reserves for eighty years, and it is now using it not only for heating, but also for disintegrating and extracting the gases for fertiliser. Thus the Ruhr coal companies found a new competitor in coal production and virtually lost their best customer.

The I. G.'s patent position has weakened lately. Last year they took action against the Mont Cenis, a Ruhr synthetic fertiliser company, but lost. This decision gave the Ruhr Chemical Products Corp. a secure position in using a similar process, and Ruhr Chemicals now owns the Concordia-Linde patents used by Mont Cenis. The I. G.'s position has been further weakened by the lapsing of the basic Haber patent. Companies in various parts of the world, and notably in the United States, are starting fertiliser production on Haber lines, and the I. G. can no longer challenge them. The Ruhr coal companies, with a synthetic nitrogen compound industry of their own, are well placed to produce at low costs. The 27 companies in the Ruhr Chemical Corp. own enough coal to meet their needs for the next four hundred years. They have enough coke-oven gas to provide hydrogen for twice the amount of synthetic nitrogen compounds produced in the world to-day, and to use it on the spot will save in transport costs.

Raw Material Costs Small

Further, the principal raw material for nitrogen production, hydrogen, need cost Ruhr Chemicals very little. At present they use about half their coke-oven gas for heating. This same gas can go to Ruhr Chemicals first, have the hydrogen extracted, and then be returned to the ovens with enhanced heating value. The Ruhr Chemicals people can also operate with a comparatively small capital expenditure on plant. Their first unit at Holton will cost them about £1,200,000, and others can be erected at much the same cost. The Casale-Concordia-Linde process on coke-gas requires less plant than the Haber Bosch process, for it entails no preliminary disintegration of the fuel, while the gases come out cleaner from the low temperature process than from the Haber Bosch process. This eliminates the need for gigantic washing installations. In spite of these facts, a trade war between the Ruhr heavy industry and the I. G. is unlikely. The low per capita consumption in many countries, which in the future will be among the largest users, suggests that the market will be large enough for everyone. Thus, while agriculturally advanced countries like Holland and Belgium each use about 45 kilos of nitrogen per hectare a year, Germany only used about 11.7 in 1925-1926, and could use twice as much. The United States, one of the largest future users, at present uses but 2 kilos per hectare. Despite increases in production, German experts estimate that world markets will take as much as produced, at least for the next five years.

Price War Would Be Costly

In addition, a price-cutting war would prove extremely costly. The I. G. is producing about 600,000 tons of nitrogen this year. A cut of 10 pfennigs a kilo would mean a 60,000,000 marks reduction in gross revenue. A 20 pfennig cut would be the equivalent of the I. G.'s last dividend. This is a very tangible reason for harmony within the Snythetic Nitrate Syndicate, to which both belong. It may be added that the Synthetic Nitrate Syndicate will market the products of the new corporation.

At the present market price levels, nitrogen compounds give the chemical industry the bulk of its profits. Cost calculating is highly intricate because the gases can be used for a wide range of products. In the Ruhr the coke gas that gives 50 per cent. of hydrogen also can provide 25 per cent. of methane and 2½ per cent. of ethane. Yet it is widely believed that I. G. produces nitrogen compounds that sell in the market at 90 pfennigs at substantially lower cost. Probably the Ruhr Chemicals Corporation can produce fertilisers equally cheaply. A war between them would thus be of uncertain outcome, while it would destroy their present margin of profit.

April Synthetic Dye Imports Up

Imports of synthetic dyes during April amounted to 633,815 pounds, which compares with 402,783 pounds for the corresponding month of 1927, according to the Department of Commerce.

The average price per pound for the April imports is 79.7 cents compared with 80.3 cents in 1927. As the average price for the first quarter of 1928 was 81 cents and 87 cents in 1927, there seems to be a slow decline in price.

Imports of Synthetic Dyes

	1927		*1928*	
	Pounds	*Value*	*Pounds*	*Value*
January	196,620	$186,387	415,156	$327,148
February	312,277	262,364	478,407	391,351
March	404,714	352,414	378,191	316,183
April	402,783	323,732	633,815	505,152
Total four months	1,316,394	1,124,897	1,905,569	1,539,834

Per Cent of Dyes by Country of Shipment

	April, 1927	*April, 1928*	*January-April, 1927*	*January-April 1928*
	Per cent	*Per cent*	*Per cent*	*Per cent*
Germany	64	75	47.62	62.56
Switzerland	18	15	31.98	25.76
France	3	2	3.58	1.79
Great Britain	4	2	5.65	2.27
Belgium	7	2.5	6.72	2.90
Canada	3	1	2.82	2.40
Italy	1	2	1.58	1.95
Netherlands	..	0.5	0.05	0.37

Germany's position in the dye trade continues to improve, having supplied 75 per cent of the April imports and 62.56 per cent. for the four months of 1928. Indications are that Germany is forging ahead at the expense of Switzerland, whose proportion of our importations declined for April and the four months' period of 1928.

Improvement in the domestic fertilizer industry has caused a decrease in the quantity of ammonium sulfate available for export trade, according to the Department of Commerce. Shipments abroad during the first quarter of 1928 were slightly better than half of those of 1927. British and German shipments, however, registered sharp increases during the same period.

	Exports During First Quarter	
	1927	*1928*
	Long tons	*Long tons*
Exporting country:		
Germany	70,308	182,851
United States	45,961	24,735
United Kingdom	36,161	77,958

A part of the apparent marked increase in German shipments is due to the fact that statistics for 1928 include reparations material, whereas the 1927 figure is exclusive of the shipments for reparations account.

Exports of dyestuffs from Germany in February, particularly alizarine and indigo, increased considerably, according to statistics published by the Statistische Rechsamt, received May 24 in the Department of Commerce. In the case of alizarine dyestuffs, 345 tons were exported in February as compared with 204 in January; in the case of indigo, 1,008 tons as compared with 849.

There was a notable increase in the dyestuffs destined for British India, to which country 58 tons of alizarine were shipped as compared with 52. The 70 tons of indigo exports to Siam were seven times those of January.

The quantity and value of domestic production of coal-tar crudes in 1927 by firms not primarily engaged in the operation of coke-oven plants and gas houses were as follows, according to the United States Tariff Commission:

Name		*Quantity*	*Value*
Total all crudes			$27,776,355
Carbolic oil or middle oil,	gallons	260,690	37,357
Dead or creosote oil,	gallons	76,395,325	9,847,932
Naphthalene crude,	pounds	45,298,441	470,806
Other distillates,	gallons	5,263,199	809,130
Pitch of tar,	tons	457,073	7,794,642
Refined tars,	barrels	1,377,703	6,172,825
Solvent naphtha,	gallons	820,701	118,205
Tar distilled,	gallons	244,550,564	

Canadian Alcohol Output Up

A marked increase in the production of industrial and commercial alcohols is a feature of a report on the distilled liquor industry in Canada for the calendar years 1925-1926, recently issued by the Dominion Bureau of Statistics.

The total production of spirits for 1926 amounted to 7,318,320 proof gallons as compared with 5,792,863 proof gallons in 1925, an increase of 26.33 per cent. Output of all products was valued at $12,216,906 in 1926, compared with $9,897,863 in 1925, an increase of 23.4 per cent. Industrial and commercial alcohol advanced in production from 1,848,002 gallons, valued at $1,144,808 in 1925 to 3,139,278 gallons in 1926, valued at $1,692,081, an increase in gallons of 1,291,276, or 69.87 per cent, and in value of $547,273. Potable spirits advanced from 3,924,100 proof gallons in 1925, valued at $8,478,777, to 4,179,442 proof gallons, valued at $10,160,396 in 1926, an increase of 255,342 gallons, or 6.5 per cent.

The value of production by provinces in 1926 was: Ontario, $8,137,167; Quebec, $2,455,087; other provinces, $1,534,226.

In 1926 there were fifteen establishments in the distilled liquor industry in Canada, a decrease of one over the preceding year; capital invested in 1926 was $26,412,006, compared with $24,506,712 in 1925, an increase of $1,915,294; the number of employes on salaries and wages advanced from 834 receiving $1,049,985 in 1925 to 1,015 receiving $1,287,122 in 1926.

An increase for 1926 both in the import and export of distilled liquors is a feature of the report. In 1926 imports were 1,601,132 gallons, valued at $26,451,677, compared with 1,366,907 gallons with a value of $22,008,736 for 1925; exports in 1926 were 1,610,211 gallons, valued at $18,870,228, compared with 1,131,896 gallons for 1925, valued at $13,519,482.

Interstate Commerce Commission institutes investigation to determine whether the rates on fertilizers and fertilizer materials required by the State Corporation Commission of Virginia to be maintained by railroads operating within Virginia, "cause or will cause any undue or unreasonable advantage, preference or prejudice as between persons or localities in interstate commerce on one hand and interstate commerce or foreign commerce on the other hand". Investigation is instituted on petitions filed by Atlantic Coast Line Railroad Co. and certain other carriers.

Commission is also recommended by Examiner H. W. Archer in a proposed report in Docket No. 16335, to find that the minimum carload weight of 30,000 pounds maintained on interstate shipments of fertilizers within South Carolina results in unjust discrimination against interstate commerce; and that an appropriate order should be entered requiring the establishment of the 40,000-pound minimum now prevailing between points south of the Ohio River and east of the Mississippi River, including Virginia, and also points on the north bank of the Ohio River.

Department of Commerce announces that the factory production of fats and oils (exclusive of refined oil and derivatives) during the three-month period ended March 31, 1928, was as follows: Vegetable oils, 789,210,195 pounds; fish oils, 8,939,097 pounds; animal fats, 718,879,608 pounds; and greases, 106,458,650 pounds; a total of 1, 623,487,550 pounds. Of the several kinds of fats and oils covered by this inquiry, the greatest production, 612,931,016 pounds appears for lard. Next in order is cottonseed oil with 434,067,525 pounds; linseed oil with 223,750,569 pounds; tallow with 104,196,488 pounds; coconut oil with 75,934,932 pounds; and corn oil with 33,552,495.

The production of refined oils during the period was as follows: Cottonseed, 406,457,026 pounds; coconut, 74,534,522 pounds; peanut, 2,406,030 pounds; corn, 28,798,330 pounds; soya-bean, 2,033,794 pounds; and palm-kernel, 3,693,306 pounds. The quantity of crude oil used in the production of each of these refined oils is included in the figures of crude consumed.

April Wood Oil Imports Lower

Shipments of wood oil from Hankow to the United States in April totaled 6,573,875 pounds, and exports to Europe totaled 908,215 pounds, according to the American consul general, Frank P. Lockhart. Estimated unsold stocks of wood oil at Hankow at the end of April were reported as approximately 600 tons. Information regarding stocks at Wanhsien and Changteh was not available.

As a basis of comparison the following tabulation indicates the shipments of wood oil from Hankow to the United States and Europe for the past month, the preceding month and the corresponding month of last year, together with the average shipments both to the United States and Europe for 1927:

	Total Pounds	*United States Pounds*	*Europe Pounds*
April, 1927	13,569,325	10,917,830	2,651,495
April, 1928	7,482,090	6,573,875	908,215
March, 1928	7,937,545	6,662,425	1,275,120
Average monthly shipment in 1927	8,167,838	6,094,935	2,072,903

The above statistics reveal that the United States is purchasing greater monthly shipments of wood oil, whereas shipments to Europe are declining each month. The large quantity of oil shipped to the United States in April, 1927, was due to the accumulation of stocks of wood oil at upper shipping ports on the Yangtze during the preceding months on account of the difficulties experienced at that time in transportation down the Yangtze.

Societa Montecatini, Italy, through its subsidiary, the Societa, Veneta Fertilizzanti e Prodotti Chimici, of Milan and Venice, constructed a plant in the port of Venice in 1927 for the treatment of pyrite cinders which are left in the manufacture of superphosphate fertilizers from iron pyrites, reports Consul James B. Young, Venice. This metallurgical process is an important one as it permits the use of hundreds of thousands of tons of cinder refuse which accumulates at the superphosphate plant and which would be thrown away or disposed of at a sacrifice. Copper and sulfur are extracted from the cinders after which the residue is converted into briquets, which are shipped to the blast furnaces of the steel mills at Servola (Venezia Giulia) and Bagnoli for their iron content. The Venetian pyrite cinder recovery and conversion plant started operations in January, 1928. The large superphosphate factory of the Societa Montecatini in Venice was built in 1924 for the manufacture of phosphatic fertilizer and has enormous deposits of this pyrite cinder. In addition to the supply of raw material on hand, it is estimated that approximately 350,000 tons will become available throughout the country each year which, when freed of copper, can be converted into briquets of 60 per cent. iron ore.

Exports of dyestuffs from Germany in February, particularly alizarine and indigo, increased considerably, according to statistics published by the Statistische Reichsamt. In the case of alizarine dyestuffs, 345 tons were exported as compared with 204 in January; in the case of indigo, 1,008 tons as compared with 849. There was a notable increase in the dyestuffs destined for British India, to which country 58 tons of alizarine were shipped as compared with 52. The 70 tons of indigo exports to Siam were seven times those of January.

Rumanian alcohol production during 1927 totaled 13,000,000 liters, a decrease of 25 per cent. under that of the preceeding year, according to Assistant Trade Commissioner L. J. Cochrane, Bucharest. The output during the last half of 1927, however, exceeded that of the corresponding period of 1926, due to regulation of production and the establishment of a central sales syndicate under government legislation.

Gas in Making Dry Colors

(Continued from page 636)

The cast iron pipe generally lasted about six to eight weeks, it being rapidly corroded by the sulfur fumes. Then it was turned around and used as long as possible until it actually fell to pieces. The furnace then had to be rebuilt.

The gas fired oven, which took the place of the coke furnace, is made of refractory materials in the semi-muffle type. The furnace is about twelve feet long, and is heated by a number of gas burners. The material is fed through this furnace which is uniformly heated throughout at a temperature of 1,500 degrees F. The time of the process was cut to two hours.

The advantages of gaseous fuel in this operation are: first that it has not been necessary to rebuild the furnace, second that the production has been materially increased, third that an actual saving in the entire operation has been effected by means of gas although it is a quality fuel and lastly that the quality of the product manufactured has been materially enhanced.

Fuller's Earth Sales Increase

Fuller's earth sold or used by producers in the United States in 1927 amounted to 264,478 short tons, valued at $3,767,038, it is announced by the United States Bureau of Mines, Department of Commerce. This is an increase of 13 per cent. in quantity and 12 in value compared with 1926. Every important producing State except Illinois and Texas showed an increase. The output was reported by 16 operators in 7 States in 1927, namely, Arizona, Florida, Georgia, Illinois, Massachusetts, Nevada, and Texas. Georgia was the leading State in production in 1927, with Florida second and Nevada third. These three States produced 79 per cent. of the total output. The average value per ton of fuller's earth was $14.24 in 1927 compared with $14.33 in 1926.

Until 1895, when fuller's earth was successfully produced commercially in Florida, the United States was entirely dependent on foreign supplies. In 1927 the imports of fuller's earth were 7,580 short tons, valued at $109,281, a decrease of 17 per cent. in quantity and 12 per cent. in value compared with 1926.

The exports of fuller's earth are not separately shown in the official records of the foreign commerce of the United States but 6 producers reported to the Bureau of Mines that in 1927 they exported 12,287 short tons of fuller's earth, which was an increase of 85 per cent. over 1926.

Buffalo Foundry & Machine Co., manufacturers of "Buflovak" vacuum dryers, evaporators and chemical apparatus, announces appointment of O. S. Sleeper as engineer in charge of special development work. For past seven years he has conducted the O. S. Sleeper Co. manufacturer of similar equipment, and prior to that, for fifteen years he was associated with the Buffalo Foundry & Machine Co.

April production of crude methanol, based on reports by the entire industry to the Department of Commerce, was 610,253 gallons as compared with 657,460 gallons in March and 666,638 gallons in April, 1927.

The April output of acetate of lime amounted to 11,743,048 pounds, against 13,022,129 pounds in March and 13,138,663 pounds in April, 1927.

Nitrogen Arc Process Expensive

At the recent meeting of the Institute of Chemical Engineers held in London, the president, Sir Alexander Gibb, commented on the extraordinarily low efficiency of the arc process in nitrogen fixation. He estimated that the arc method in use in Norway demanded approximately 80,000 kilowatt hours per ton of nitrogen fixed. The cyanamide process required approximately one-fourth of the electrical energy of the arc process but was, nevertheless, a "cheap power industry" dependent almost wholly on water power. The direct synthetic process required approximately one-sixteenth of the power used in the arc process and for this reason and due to the fact that auxiliary use could be made of the exhaust steam, the synthetic process was entirely independent of water power. A comparison of the present and pre-war positions of the three processes appears in the following table, compiled by the Department of Commerce:

World Production of Fixed Nitrogen Other Than in Chilean Nitrate and By-Product Ammonia

	Plants		*Quantity Produced*		*Per cent of Total Production*	
	1913	*1926*	*1913*	*1926*	*1913*	*1926*
			Tons	*Tons*	*Per cent*	*Per cent*
Arc Process	7	7	19,800	40,500	31.7	5.5
Cyanamide Process	15	28	36,000	174,000	57.4	23.7
Direct Synthetic Process	1	49	6,800	519,000	10.9	70.8
Total	23	84	62,600	733,500	100.0	100.

Peru, with a population of about 5,500,000 consumes more than $200,000 worth of American paints and varnishes yearly, and as much again of European paints, according to the Department of Commerce. The United States gained first place in the Peruvian market for these products in 1926, whereas Great Britain had led before that year.

Little progress has been made as yet in local production. Several paint shops in the larger cities are manufacturing inferior grades of varnish, but the difference between the cost of the domestic product and imported varnishes is small because the domestic producer has to import most of his raw material. The "Viuda de Luis Orrigi" is the largest producer of varnish, but the product is reported to lose its luster quickly and to have a tendency to whiten.

Mineral earth pigments are found in Peru and it is reported that experiments are being conducted in mining deposits near Tacna for local paint manufacture. In 1926 a company was formed to mine them for export, but samples and prices sent to London importers were reported by the latter to be good quality but prohibitively expensive.

Notwithstanding the fact that British and German exports of caustic soda showed increases during the first quarter of 1928, the share of the United States in the international trade declines, according to the Department of Commerce. Statistics follows:

	Exported During the First Quarter	
	1927	*1928*
	Long tons	*Long tons*
Exporting country:		
United Kingdom	26,668	30,874
United States	13,530	11,479
Germany	1,621	4,655

Although there is probably a large profit derivable from the treatment of Congo ore, it is not likely that the Belgian Syndicate will meet sufficient competition to cause any reduction in the present quotations. It is not known how long the high-grade ore will last, but when it is exhausted, the price of radium may be expected to advance. According to K. L. Kithil it is the opinion of interested parties that, so far as can be foreseen, radium will in future years never again be obtained at the present low price.

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Miscellaneous

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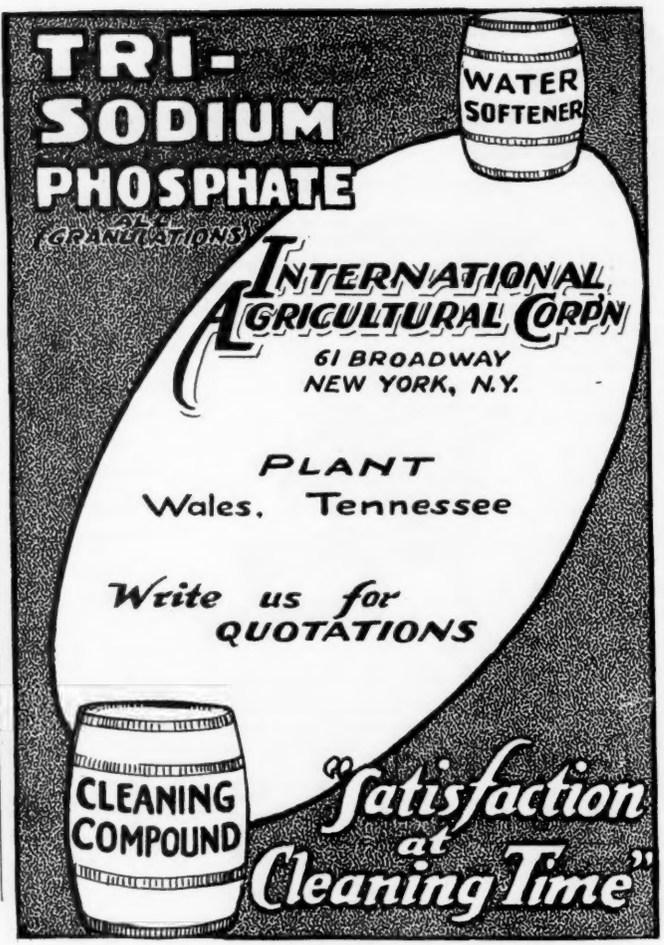

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(*Continued from page 701*)

"WE"—Editorially Speaking

The trustful belief of many readers that an editor is omnipotent or at least all knowing is very flattering, but it is sometimes a little embarrassing. In order not to disappoint these trustful clients we must follow the example of the Question Box Departments of the Sunday newspapers who, when they are stumped, pass on the inquiries to their readers, and we will be grateful indeed, to any who can assist us in replying properly to the following inquiries which have recently come to our desks.

1. How many ounces of yellow phosphorous can a pint of carbon disulfide dissolve ?
2. What was the Egyptian hieroglyphic to represent oxygen or at least the air ?
3. Is it a fact that rats and mice cannot vomit ?
4. What is water ink ?

These are not samples from a Foolish Question Book. For instance, the man who wants the Egyptian hieroglyphic is seeking a design for a trademark, and the gentleman interested in the physiological reactions of rodents is one of the largest manufacturers of rat poison in the country.

"It's a very difficult thing for me to feel the pain of your toothache," and the danger which lurks in any purchase made below cost does not appeal particularly to the buyer. Only a very farsighted industrial purchaser recognizes that it is bad business for him to force the price of raw materials below the danger point of cost. Mr. Bussman's vigorous reply to the article we published last month from Mr. Abbott makes, therefore, interesting reading. He concedes the danger, but places the blame not upon the too avaricious buyer, but upon the too greedy salesman.

A reformed rake, according to proverbial wisdom, often turns into a married martinet, and almost any salesman will tell you that among the hardest buyers he meets is the one who formerly sold goods. It was, therefore, probably natural enough that one of the first efforts to initiate buying on definite chemical specifications was introduced by a former salesman, and throughout the aromatic chemical industry the opposition which this brought forth raised on the part of this particular buyer only a greater determination to buy exactly the materials which he required. Definite chemical specifications are not altogether a new thing. Sometimes with very great exactness—as in the case of reagents—and sometimes with a considerable latitude—as in the case of industrial chemicals—specifications have been more common in this field than in almost any other. Accordingly, much that Mr. Schlink says in the interesting article in this issue will not strike the chemical executive as so revoluntionary as they will the manufacturer of furniture, or candy, or other consumer goods. "Your Money's Worth," of which this writer was co-author, amassed much destructive material, and even the suggestion with which the book ended that the Bureau of Standards should set itself up as a bureaucracy for American buyers did not appeal to us as practical. We know very well the objections that there are to specifications, but we recognize that the movement which Mr. Schlink so vigorously led at the recent meeting of the National Association of Purchasing Agents finds a ready response among many buyers of industrial chemicals. It has, moreover, some sound arguments in its favor, and it appears likely that many a chemical salesman is going to hear more and more of this subject as time goes on.

Way back in 1917 CHEMICAL MARKETS —then "Drug and Chemical Markets"—published a series of articles on taxes and supported vigorously the principle of the sales tax. Again in 1920, when tax revision was before Congress, we advocated this same most simple form of government revenue raising. There is a possibility that along with tariff and farm relief, with prohibition and price maintenance, and commercial bribery Congress will again consider taxation when it convenes next year. It appears to be timely once more to set forth the principles of the sales tax. We have yet to find a single man—outside of Congress—who, once he thoroughly understood this proposal, did not heartily favor it. Compared with the brain racking complexities of the present tax laws it is simplicity itself. It would almost automatically prevent tax dodging. It would spread itself with absolute equality over every citizen, and it would provide the Government at much less cost with more than adequate revenues.

JULY FEATURES

There seems little doubt that the question of the tariff will be of major importance during the next year and in the July issue we present several fine articles on the subject. Among the contributors to this series will be John E. Edgerton, president of the National Association of Manufacturers, a recognized authority on the subject. Also one of the series will be from the trade union viewpoint of the tariff question.

In addition the issue will contain an article on conditions in the Belgian chemical industry another of the series of reviews of conditions of the industry in various foreign countries.

The attention of at least a portion of the industry is focussed on learning what best it can about the inside happenings of the recent Adriatic Nitrogen Conference. Combine with this the approach of the new nitrate season in Chile and it seems particularly fitting to include in this issue a review of the Chilean nitrate of soda position. This market review is written by an authority on the subject and is singularly free of propaganda either for or against a renewal of sales through the Nitrate Producers' Association. The story bears the endorsement of both the anti and pro forces, and while it strikes us that the figures of the estimated sale for next season are born of to much enthusiasm, this may be treated as excusable optimism for an industry which has climbed from the depths within the short span of a year.

It is always with a feeling of satisfaction that we publish an article written by an authority on such a subject of trade interest as "Are We Not Neglecting Less-Carlot Distribution ?" which appeared in our May issue written by Geo. S. Robins. With an article of this controversial type we can usually count on letters of applause or criticism—and this article has not been an exception. For the interest of the trade we publish a few of the letters containing the most constructive thoughts on the subject.